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The Potential Power of Positive Personal Resources

Expanding Work Engagement and Performance through Positive Psychological Resources

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Table of Contents

Abstract	3
Preface	4
General Introduction	5
Literature Review	7
Methods	30
Results	41
Discussion	57
Definition of Terms	71
References	73
Appendix	86

Abstract

This study examined the relationship between personal resources, autonomous motivation and work engagement. It aimed to identify developable constructs which by themselves, or in combination, are associated with motivation, work engagement and ultimately work performance. A model was proposed that served as the basis for the hypotheses, including autonomous motivation as a mediating variable between various personal resources and work engagement. The study was a cross-sectional study with an online questionnaire, incorporating seven different instruments. 117 respondents were included in the final analysis, of which 76% were females and 78% were Dutch residents. The results of this study showed that there was a positive association between the personal resources of grit, Psychological Capital, harmonious passion, authenticity and purpose in life and work engagement. The proposed model explained 67% of variance of work engagement, with autonomous motivation having the strongest relationship with work engagement. Autonomous motivation only fully mediated the relationship between authenticity and work engagement, whereas for grit, Psychological Capital, harmonious passion and purpose in life this relationship was partially mediated. The explorative analysis did not yield meaningful significant results, suggesting that the studied constructs explain a significant amount of work engagement in their current forms. This suggests that when cultivating personal resources, higher levels of work engagement will also be reported among employees and therefore, organizations can choose which personal resource they would like to develop with an intervention. It is recommended to choose state-like and trainable personal resources. Several limitations and possibilities for future research are mentioned in the discussion, such as further studies on the direction of the relationships.

Keywords: Work engagement, Psychological Capital, Positive Psychology, Autonomous Motivation, Personal Resources

Preface

Writing a master thesis for the master Social and Organizational Psychology is never easy, especially not when you are interested in the topic and in your enthusiasm like to be very elaborate and complete. I would, therefore, like to thank my supervisor Dr. Herman Steensma for all his patience, guidance and support. He supported my enthusiasm endlessly, spent much time and effort reading all my versions, and provided me with much positive feedback that gave me the confidence to continue. I am thankful for his meticulous eye for detail and for all the conversations we were able to have. He made my master thesis project not only very educational but also fun. Thanks to him I now know that my future career lies in the field of positive psychology.

I hope that with this research, organizations are able to understand that they can have an impact on work engagement not only by providing job resources but also by stimulating the development of personal resources.

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General Introduction

According to Gallup's study in 2013, based on 142-countries, focusing on *the State of the Global Workplace*, 63% of employees worldwide are not engaged at work, 24% of employees are actively disengaged and only 13% of employees worldwide report being engaged at work (Keating & Heslin, 2015). Work engagement is a "positive, affective-motivational, work-related state of mind defined by vigour, fulfillment, absorption and dedication while an employee is fulfilling his tasks at the workplace" (Schaufeli, Salanova, González-Romá & Bakker, 2002). This lack of work engagement has detrimental effects on organizations since research has shown that work engagement and engaged employees are important for a productive workforce, increasing employee job satisfaction and job performance (Christian, Garza, & Slaughter, 2011; Yeh, 2013; Bakker & Demerouti, 2008). It further influences organizational commitment (Hallberg & Schaufeli, 2006) and employee turnover rates (Takawira, Coetzee & Schreuder, 2014). In the last decades, conceptual frameworks have been devised that promote well-being and work performance focused on influencing work engagement and other constructs related to work performance and job satisfaction.

These frameworks focus on personal resources which studies have shown play an essential role in cultivating work engagement (Xanthopoulou, Bakker, Demerouti & Schaufeli, 2007). The working definition of personal resources is that "they are aspects of the self that are often linked to resilience and refer to the sense of individuals' ability to control and have a successful impact on their environment and circumstances", such as self-efficacy, optimism, and organisation-based self-esteem (Hobfoll, Johnson, Ennis & Jackson, 2003; Xanthopoulou et al., 2007). Personal resources (a) are beneficial to achieve goals (b) protect individuals from threats and related psychological costs and (c) encourage development and personal growth (Xanthopoulou, Bakker,

Demerouti & Schaufeli, 2009). Several studies suggest that employees possessing high levels of personal resources are able to deal more effectively with job demands, which prevents negative outcomes such as exhaustion and burnout (Mäkikangas & Kinnunen, 2003; Van Yperen & Snijders, 2000; Xanthopoulou et al., 2007). Moreover, Hobfoll (2002) argues that resources tend to generate other resources which may result in outcomes such as better coping and higher well-being. There are numerous positive psychological concepts that contain varying personal resources. Psychological Capital is comprised of positive psychological states pertaining to individual development and consists of four components, namely hope, optimism, resilience and self-efficacy (Luthans, Youssef & Avolio, 2007b). Psychological capital has been found to be an antecedent that predicts work engagement and increases financial profit (Youssef & Luthans, 2007; Luthans, Avey, Avolio, Norman & Combs, 2006). Another concept that contains positive psychological resources is grit. Grit is defined as passion for and perseverance toward especially long-term goals (Duckworth & Gross, 2014). There are also other psychological resources such as harmonious passion, purpose in life and authenticity that research has found influence work engagement (Vallerand, Houliort & Forest, 2014; Greenway & Schreiner, 2005; Luthans et al., 2007b).

To ultimately develop interventions aimed at increasing work engagement among employees and in organisations, it is important to know which constructs interventions should focus on. Findings from previous studies highlight that providing job resources is valuable but the empowerment of employees' personal resources may also be profitable for organizations because it leads to higher profit, less turnover rates and lower chances of burn-out (Xanthopoulou et al., 2007). Literature has shown that there are several different models and constructs that have a positive relationship with work engagement, however, many of these variables overlap. Thus, this study aimed to identify to what extent various personal resources are related to work engagement

and create a clear model that best explains this relationship. This is realized through clearly defining the various conceptualizations, highlighting the overlap between constructs and performing a field study.

Literature review

Work engagement

The construct of work engagement comes from positive psychology research and reflects a state of supreme satisfaction with work defined by vigour, dedication and absorption (Schaufeli et al., 2002). It is a positive, fulfilling and work-related state of mind and is used to predict high work performance in organizations (Schaufeli & Bakker, 2004, p. 295; Suzuki, Tamesue, Asahi & Ishikawa, 2015). Vigour is characterized by “high levels of energy and mental resistance, persisting even in the face of difficulties and the willingness to invest effort in individual work” (Costantini et al., 2017, p. 2). In other words, working long hours at work without getting tired and feeling energetic (Ultee, 2012). Dedication can be described as experiencing a sense of significance, pride, inspiration and enthusiasm and being strongly involved in work. Finally, absorption refers to being fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one is unaware of the world around him (Bakker & Demerouti, 2008).

Studies have shown that engaged employees are energetic, experience a connection with their work tasks and see themselves as capable of managing their job demands (Bakker & Demerouti, 2008). Work engagement is additionally important in organizations due to its various organizational outcomes. It leads to higher quality performance (Chen, 2015; Thompson, Lemmon & Walter, 2015), but also to less stress-related complaints (Schaufeli et al., 2002), higher well-being (Schaufeli & Bakker, 2004), less burn-out and low absenteeism (Salanova, Agut & Peiró,

2005). Higher levels of employee engagement also induce more employee commitment to the organization which decreases employee turnover. Thus, organizations have observable gains in productivity and costs for employee replacement significantly decrease. Moreover, engaged employees have a greater desire to form strong connection with customers, leading to higher customer spending rates (Thompson et al., 2015). Engaged workers additionally transfer their engagement to others in their immediate environment (Bakker & Demerouti, 2008) and they further develop their own job and personal resources (Bakker & Oerlemans, 2010). Consequently, employee engagement influences performance (Ultee, 2012). It is, therefore, desirable to have an engaged workforce.

According to the Job-Demands Resources model (JD-R model) of Bakker and Demerouti (2008), job resources are the most important predictors of work engagement (Hakanen, Bakker, & Schaufeli, 2006). However, studies on the Job-Demands Resources model have mostly focused on work characteristics and often did not consider the role of employees' personal resources, which are important determinants of the adaptation of the employees to their work environments (Xanthopoulou et al., 2007; Hobfoll, 1989). The JD-R model poses that there are two categories of work environments, job demands and job resources. Job demands refer to physical, social and organizational aspects of the job that require continuous physical or mental effort and are associated with certain physiological and psychological costs (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). The greater the effort, the greater the physiological costs for the individual. Job resources, on the other hand, are physical, social or organizational aspects of the job that are functional in achieving work-related goals, reduce job demands and stimulate development and personal growth (Demerouti et al., 2001). Job resources are aspects such as autonomy, social support and feedback and due to their motivational potential (both intrinsically and extrinsically), enable employees to

meet their goals. This in turn can provide employees with fulfillment and increase their commitment (Hackman & Oldham, 1980). The model assumes that burnout may develop when job demands are high and job resources are limited because it leads to energy depletion and undermines the motivation of employees' leading to disengagement (Demerouti et al., 2001). Various job resources, such as job autonomy, performance feedback and social support relate positively to work engagement (Bakker & Demerouti, 2007).

However, one's level of work engagement is influenced not only by their job resources but also by their personal resources. This idea was supported by Xanthopoulou et al. (2007) who extended the range of resources encompassed in the JD-R model of employee engagement to include personal resources, which are aspects of self that refer to an individuals' sense of their ability to control their environment (Keating & Heslin, 2015). Several examples of personal resources are optimism, mastery, resilience and self-esteem and they predict successful dealing with the environment through motivation, performance and setting targets (Xanthopoulou et al., 2007). Employees with more personal resources had greater mastery enabling them to deal more effectively with demanding conditions and experience more work engagement (Van Yperen & Snijders, 2000; Mäkikangas & Kinnunen, 2003; Xanthopoulou et al., 2007). Several studies found that individuals with higher levels of personal resources, like optimism and self-efficacy, also possessed more job resources (and vice versa) (Xanthopoulou et al., 2009). According to the JD-R model, employees with higher levels of psychological resources are expected to focus more on job resources leading to higher levels of work engagement, instead of focusing on job demands and experience higher levels of exhaustion (Xanthopoulou et al., 2007).

Autonomous Motivation

Job resources, such as autonomy and social support, augment motivation, in particularly intrinsic motivation, for achieving goals because it enables the basic needs of autonomy, competence, and relatedness to be met (Bakker & Demerouti, 2007; Ryan & Deci, 2000). The self-determination theory (SDT) highlights the importance of these three basic needs and provides a framework which suggests that fostering workplace conditions where employees feel supported in their need for autonomy and competence at work, results in enhanced intrinsic motivation. This consequently leads to more employee satisfaction, creativity, higher employee engagement and enables organisations to develop and thrive (Ryan & Deci, 2000; Deci, Olafson & Ryan, 2017). Intrinsic motivation pertains to activities performed for the sake of the activity because it is satisfying and interesting (Ryan & Deci, 2000). It is the inherent tendency to seek out challenges, to extend one's capacities, and to learn and explore (Ryan & Deci, 2000). Extrinsic motivation, on the other hand, pertains to behavior and activities motivated by attaining a specific reward, whether tangible, verbal or otherwise (Deci et al., 2017). These extrinsic rewards give the individual satisfaction, not the activity itself (Gagné & Deci, 2005).

According to the SDT, both employee well-being and performance are affected by the type of motivation held towards job activities (Deci et al., 2017). A distinction is made between more autonomous and controlled motivation, with autonomously motivated individuals being engaged in activities because they are aligned to their identity and personal goals while controlled individuals are motivated by contingent rewards or power dynamics (Deci et al., 2017). These types of motivation differ in their underlying regulatory processes and accompanying experiences (Gagné & Deci, 2005). Autonomously regulated activities are often intrinsically motivated but the SDT argues that extrinsic motivation can be differentiated into various forms, recognizable in the

workplace and ranging from less to more autonomous (Deci et al., 2017). Additionally, extrinsically motivated activities can, under the right circumstances, also be autonomously motivated. For example, when individuals understand the purpose and worth of their jobs, feel ownership and autonomy, and receive clear support and feedback, they are more likely to possess more autonomous motivation and perform better, learn better and be better adjusted (Deci et al., 2017). Amotivation is considered the lack of motivation all together and is considered completely extrinsic. External regulation is at the least autonomous end of the extrinsic-motivation continuum of autonomy. When employees experience external regulation, they perceive their behavior as being directly controlled by others, often through rewards and threats (Deci et al., 2017). This kind of external motivation leads to long-term reduction of autonomous motivation and well-being. A slightly more autonomous form of motivation is introjected regulation which is motivation focused on approval versus disapproval in their jobs and from their managers. Identified regulation is considerably more autonomous and occurs when individuals have personally identified with the importance and/or value of their work roles (Deci et al., 2017). Because these individuals are more autonomously self-regulated they are flexible in selecting and sustaining their behavior and activities. Finally, the most autonomous form of extrinsic motivation is integration which is when individuals assimilate and integrate their different identifications, such as identification with one's job and identification with one's family (Deci et al., 2017). When identifications are integrated, individuals are completely engaged with respect to their job tasks.

In general, SDT expects more autonomous forms of motivation (intrinsic, integrated and identified) to predict greater persistence, engagement, performance quality and well-being over time compared to more controlled forms (Ryan & Deci, 2000; Miserandino, 1996; Deci et al., 2017). There is, however, insufficient research on the effect of positive psychological resources on

autonomous motivation, which would appear to be an important influence because it aids in the integration process and persistence in performing certain actions.

Psychological Capital

Because level of work engagement is influenced not only by one's job resources, but also by one's personal resources, models such as Positive Organizational Behavior (POB), focus on the influence of positive psychological resources on job performance, satisfaction and well-being (Bakker & Demerouti, 2008; Luthans, Avolio, Avey & Norman, 2007a). POB is the "study and application of positively oriented human resource strengths" (Luthans et al., 2002b, p. 59). It focuses on positive psychological resources at the individual-level, that are; theory and research based, measurable, state-like (development) and related to performance outcomes and organizational behavior (Luthans et al., 2007b, pg. 11). The positive psychological capacities that initially met these POB inclusion criteria were self-efficacy, resilience, hope and optimism, commonly known as PsyCap. Other possible and relevant psychological resources, as mentioned by Luthans, Youssef-Morgan & Avolio (2015), are flow, gratitude, mindfulness, authenticity and emotional intelligence. Psychological capital (PsyCap) is "a higher order positive construct composed of four constructs: self-efficacy (confidence), resiliency, hope and optimism" (Luthans et al., 2007b, pg. 4). It is defined as (1) having the confidence to undertake the necessary effort to succeed at challenging and difficult tasks (self-efficacy), (2) persevering towards goals and, when required, choose a different paths to meet goals in order to succeed (hope), (3) making a positive attribution about succeeding at the present moment and in the future (optimism), and (4) when facing adversity and problems, continuing and bouncing back in order to be successful (resilience) (Luthans et al., 2015; Youssef-Morgan & Luthans, 2015). These four constructs are all state-like,

malleable and open to development. However, PsyCap is not just composed of separate underlying constructs, instead when combined, they form an entity that has a larger effect than the individual constructs themselves (Luthans et al., 2007b). Therefore, PsyCap appears to be a core construct where the whole is greater than the sum of its parts.

The construct of hope is defined as a “positive state based on an interactively derived sense of fruitful agency (goal-directed energy) and (2) pathways (planning to meet goals)” (Snyder, Irving & Anderson, 1991, p. 287). It is a cognitive state in which a person is able to set challenging but realistic goals and expectations and consequently reaching for those aims through using self-directed determination, energy and perception of internalized control (the first component, agency) (Luthans et al., 2007b). The second aspect of hope, pathways, is the component where people are capable of generating alternative paths to still achieve desired outcomes, when original paths are blocked (Snyder, Rand & Sigmon, 2002). It is the pathway component that differentiates the construct of hope from self-efficacy (Youssef-Morgan & Luthans, 2014). Luthans et al. (2015) have stated that it can be developed through, for instance, contingency planning and goal setting. Optimism is defined as a generalized positive outlook on situations. It is presented by Seligman as an attributional style explaining positive events in terms of permanent, personal and pervasive causes while ascribing negative events as external, temporary and situation-specific (Seligman, 1998).

Resilience was described by Luthans (2002) as “the developable capacity to bounce back from conflict, failure, adversity but also from positive events and increased responsibility and the will to go beyond the normal and what is expected”. Resilient individuals are able to view change as a challenge, engage support of others and are action-oriented (Spangler, Koesten, Fox & Radcl, 2012). Based on Bandura’s (1997) social cognitive theory, self-efficacy is defined as “an

individual's belief about their ability to succeed at challenging tasks in a specific context" (Liu, Chang, Fu, Wang & Wang, 2012). The probability that an individual associates to being able to perform those tasks is the level of self-efficacy that an individual possesses (Luthans et al., 2007b). Most individuals have a 'generalized' level of self-efficacy in tasks and challenges in various domains, including the workplace (Parker, 1998). The amount of self-efficacy possessed by an individual motivates them to choose and appreciate challenges and utilize their strengths and skills in order to overcome them successfully. Thus, it encourages people to pursue their goals and invest time and energy in order to meet them (Luthans et al., 2007b). It aids perseverance and, in that way, is related to hope, optimism and resiliency. To develop efficacy, there are several approaches including social persuasion, vicarious modeling, physiological and psychological arousal and mastery experiences (Bandura, 1997).

There are numerous studies that found that PsyCap increases levels of work engagement. A study by Mazzetti, Guglielmi, Chiesa & Mariani (2016) stated that job resources like greater degrees of autonomy and social support, contribute to building employees' personal resources, such as PsyCap. The positive association between PsyCap and job resources causes employees to feel more engaged in their work (Mazzetti et al., 2016). Another study by Joo, Lim and Kim (2006) also suggested that higher engaged employees possessed higher levels of PsyCap. Moreover, Chen (2015) found not only a positive relationship between leaders' psychological capital and job engagement, but he also proved that job engagement mediated the relationship between followers' psychological capital and their job performance. Thereby suggesting that higher PsyCap leads to higher work engagement, which in turn leads to improved job performance. A similar finding was found by Costantini et al. (2017) who found that psychological capital can be considered as a set of personal resources which lead to increased work engagement. Moreover, through their resource-

based intervention program they found work engagement can be developed through interventions aimed at increasing psychological capital (Costantini et al., 2017). Therefore, in this study it is hypothesized that:

Hypothesis 1: (a) Individuals who possess higher levels of psychological capital (hope, optimism, self-efficacy and resilience) are more inclined to experience higher levels of work engagement. (b) This relationship is mediated by autonomous motivation.

Grit

Grit is a newly construed personality trait, defined as “perseverance and passion for long term goals”. It is characterized by the two lower-order facets of perseverance of effort and consistency of interest for long-term goals. (Duckworth, Peterson, Matthews & Kelly, 2007; Duckworth & Quinn, 2009). Grit is suggested as a valid predictor of long-term success. Grit is not just having resilience in the face of failure, but also about having deep commitments. These commitments evolve out of pursued interests that over time develop into passion. This passion is not only an interest, but it is caring about the same ultimate life goal in an enduring, steadfast and loyal way (Duckworth, 2017, p. 64). Duckworth mentions in her book, *Grit: why passion and resilience are the secrets to success*, that there are four psychological assets that all outstanding exemplars of grit have in common. These four assets - interest, practice, purpose and hope - develop over the years and often in a particular order. For this reason, although grit can be considered a personality trait, individuals can still develop their grittiness and the level of grit possessed is not entirely fixed (Duckworth, 2017, pg. 89).

Duckworth states that interest is necessary to develop passion. Passion begins with intrinsically enjoying what you do. After interests have been cultivated, it is important to have the

capacity to practice. This is a form of perseverance and requires daily discipline of continuously trying to do something better than the day before. To be gritty is to resist complacency and one is required to constantly look at what can be improved and continue to do that (Duckworth, 2017). Thirdly, purpose is extremely important to have grit. One cultivates passion through the conviction that their work matters. Without purpose, interests will unlikely sustain for a lifetime. People with more grit are more motivated to seek a meaningful, other-centered life. Moreover, the more your goals serve a common purpose and one ultimate concern (your top-level goal), the more focused your passion becomes and the easier it is to persevere in the face of hardships to that goal. Finally, hope is a kind of perseverance that is important at every stage of developing grit. Hope enables an individual to keep going when they face adversity, it empowers someone to get back up after setbacks and continue to fulfill their goals (Duckworth, 2017, pg. 92). Exceptional gritty people think about setbacks optimistically and believe that they can learn from everything. All of these psychological assets are important because as Ken Sheldon researched, work on enjoyment and importance are two main components that lead to autonomously motivated goals (Sheldon, 2014). This measure of autonomous motivation correlates positively with grit (Duckworth, 2017). Thus, grit is related to autonomous motivation.

There is a limited amount of studies that examined the relationship between work engagement and grit. Previous research on grit has focused mainly on associations between grit and academic and professional success outcomes, such as GPA, number of career switches and military retention rate (Duckworth et al., 2007). Therefore, studies that show to what extent grit affects actual work performance in organisations are important and desired. One such study is a Japanese cross-sectional study by Suzuki and colleagues (2015) aiming to study the relationship between Grit and work engagement and performance. They found that grit had a significant

positive association with work engagement. This was consistent with the findings of Von Culin, Tsukayama and Duckworth (2014), who in their U.S. study discovered an association between engagement and grit. These findings led to the formulation of the second hypothesis in this study:

Hypothesis 2: (a) Individuals who are grittier (possessing both passion and perseverance) are inclined to experience higher levels of work engagement. (b) This relationship is mediated by autonomous motivation.

Nonetheless, a study by Ion, Mindu and Gorbănescu (2017) concluded that grit has limited power in predicting work-relevant outcomes and that grit is dispensable in explaining the personality-job performance relationship. They state that in order to avoid transforming grit into a “hype”, it is necessary to produce robust evidence in favor of its utility in predicting work-related outcomes (Ion et al., 2017).

Harmonious Passion

Several researchers and practitioners have argued that passion for work is a means of augmenting performance and wellbeing (Birkeland & Buch, 2015; Perrewé, Hochwarter, Ferris, McAllister & Harris, 2014; Zigarmi, Nimon, Houson, Witt & Diehl, 2009). The Dualistic Model of Passion (Vallerand et al., 2003) characterizes passion as “a strong inclination toward a self-defining activity that an individual loves, finds meaningful and relevant, and invests a substantial amount of energy and time in” (Lafrenière, Bélanger, Sedikides, & Vallerand, 2011). Moreover, the Dualistic Model of Passion suggests that there are two distinct types of passion: obsessive and harmonious passion. This is in line with the self-determination theory because contingent on the situation that passionate activities are internalized into a person’s identity, an individual can either experience greater harmonious or obsessive passion for that activity. Individuals with harmonious

passion internalized their activity in a perceived autonomous situation (Mageau et al., 2009). This activity, therefore, gains importance because it is pursued for autonomous reasons and freely endorsed. For that reason, harmonious passion can be explained as a motivational force and as a strong desire to freely engage in an activity that is meaningful and aligns well with other areas of a person's life (Vallerand et al., 2003). Harmonious passion is positively associated with aspects such as life satisfaction and meaning in life (Rousseau & Vallerand, 2003; Vallerand, 2008).

Obsessive passion, on the other hand, is passion that results from individuals in a specific context feeling pressured to invest themselves in the activity, which leads to a controlled internalization of the activity into an individual's identity (Mageau et al., 2009). In other words, a person loves the activity, such as their work, but they also feel obliged to perform the activity in order to receive certain contingencies, such as maintaining one's self worth or value (Mageau et al., 2009; Birkeland & Buch, 2015). This causes the activity to become overvalued, taking up a disproportionate amount of one's identity and favored above all areas in life (Vallerand et al., 2003). Individuals who experience obsessive passion towards an activity, tend to have more psychological distress, such as depression and burnout (Rousseau & Vallerand, 2003; Vallerand et al., 2008; Birkeland & Buch, 2015).

Although both types of passion are equally related to high levels of performance (Bonneville-Roussy, Lavigne & Vallerand, 2011; Mageau et al., 2009, study 3; Vallerand et al., 2008), Carpentier, Mageau and Vallerand (2012) suggest that harmonious passion, in comparison to obsessive passion, contributes to a more fulfilling life. This can be partially explained by the fact that harmonious passionate people are able to experience flow, not only in their desired activity but in other activities as well, which leads to maximized efficiency, creativity and well-being (Steele & Fullagar, 2009; Carpentier et al., 2012). Because of the positive consequences of flow, which is

the complete absorption of oneself in the moment and the sense of complete mastery over the environment, harmonious passion is linked to well-being. Moreover, it is suggested that harmonious passionate individuals have a disposition to immerse themselves in all of their activities, thus, experiencing flow during activity engagement in general (Carpentier et al., 2012). This could possibly lead to harmonious passionate individuals experiencing more work engagement, even if their work is not their passion. Similarly, Ho, Wong and Lee (2011) in their research on work passion concluded there was a positive association between harmonious passion and work performance, but such a conclusion could not be drawn for obsessive passion. Based on these research findings, the following hypothesis was formulated:

Hypothesis 3: (a) More harmonious passionate individuals are inclined to experience higher levels of work engagement. (b) This relationship is mediated by autonomous motivation.

Additionally, researchers have construed various operational definitions of employee work passion. Vallerand et al. (2003) argued that work passion is the investment of time and energy directed at activities deemed pleasurable and relevant. Passion has additionally been defined by Maslach, Leiter and Schaufeli (2008) as the vigorous immersion in activities that are rewarding, building self-efficacy. The definition of work engagement as defined by Harter, Schmidt and Hayes (2002) is involvement, enthusiasm and contentment for work, which share conceptual similarities and correlates with both harmonious and obsessive passion (Birkeland & Burch, 2014). A similar finding was also reported by Van der Knaap and Steensma (2015). Therefore, Zigarmi et al. (2009) argued that engagement can be substituted for work passion since engagement is not a term that fully encompasses the impact of work passion in individuals because it does not differentiate between harmonious and obsessive passion. Perrewé et al. (2014) further developed

this argument by stating that work passion encourages work behaviors, which is broader and includes more proactive behavior than work engagement by itself because of an intense desire and intentionality for work. As Birkeland and Burch (2014) mention, engagement, which is defined by Kahn (1990, p. 693) as “moments of task performances”, is relatively stable but will fluctuate based on daily differences. Passion on the other hand, which is a desire towards work, has a stable, non-fluctuating relationship with work and is not susceptible to daily influences (Carbonneau, Vallerand, Fenet & Guay, 2008). Thus, work engagement reflects the intensity of experiences *during* work, where passion for work mirrors the general relationship quality *with* work (Birkeland & Buch, 2014). These two concepts are, therefore not mutually inclusive but two distinct processes.

Furthermore, passionate employees are intrinsically motivated and autonomously internalize activities which increase their self-concept (Perrewé et al., 2014). Thus, employees with passion tend to possess high levels of intrinsic motivation. Moreover, Vallerand's (2008) definition of harmonious passion is congruent with the definition of employee work passion, supporting the cognitive and affective appraisals that lead to positive intent and behavior (Zigarmi et al., 2009).

Purpose in Life

Purpose in life was mentioned as a possible psychosocial resource by Chida and Steptoe (2008). It was additionally included as a core measure in the six core dimensions of Ryff and Singer's (1996) model of well-being, based on research on positive psychological functioning. The concept of purpose in life could be defined as a central, self-sustaining aim in life that contributes to one's enduring sense of direction and meaning (McKnight & Kashdan, 2009). Having a purpose in life motivates individuals to be goal oriented without having a designated outcome (Elliot, 2006).

As Scheier et al. (2006) stated, these valued, higher-order goals, enable individuals to remain behaviorally engaged in life. Acting in according to one's purpose in life is expected to boost energy levels and optimism (McKnight & Kashdan, 2009). McKnight & Kashdan (2009) have also proved that having and following a purpose in life results in higher life engagement because it serves as a motivating force, leading to consistent behavior focused on achieving this purpose.

Consequently, the fourth hypothesis in this study is:

Hypothesis 4: (a) Individuals with a clearer sense of purpose in life are inclined to experience higher levels of work engagement. (b) This relationship is mediated by autonomous motivation.

The foundation of most research on purpose in life is based on the work of Frankl (1959; as cited in Greenway & Schreiner, 2005) who proposed that individuals strive “to realize the most value in life and to fulfill as much meaning in existence as possible” (Frankl, 1959, p. 161). There is also a relationship between purpose in life and engagement (Greenway & Schreiner, 2005). Additionally, individuals with a strong purpose in life experience more positive outcomes and higher well-being, both physically (Zika & Chamberlain, 1992) and psychologically (Ryff & Keyes, 1995).

Authenticity

According to the POB criteria, Luthans et al. (2007b), mentioned authenticity as a possible form of positive psychological capital. There are several authenticity models. Kernis and Goldman (2006) developed an authenticity model including four interrelated but separate components: awareness, unbiased processing, behavior and relational orientation. The concept of authenticity is described by Kernis and Goldman (2006) as “the extent to which thoughts, feelings and

behaviours of a person reflect their true or core self.” Awareness, according to Kernis and Goldman (2006), pertains to the human characteristic of eagerness to gain more self-knowledge to form a multi-faced, well-integrated representation of self. To do so, one must accept oneself fully which corresponds to the second component, unbiased processing. Moreover, authentic people will behave in agreement with their honest assessment of their self-aspects (Kernis & Goldman, 2006). Their chosen behavior and actions are guided by motivated, conscious intentions that reflect their authenticity and integrity (Kernis & Goldman, 2006). Finally, relational authenticity signifies being your “true” and “real” self with others. Thus, being authentic can be considered a form of psychosocial resources, through cultivating more social support (Ultee, 2012).

Another model of authenticity, incorporating both the models of Kernis and Goldman (2006) and Wood, Linley, Maltby, Baliousis and Joseph (2008), was developed by Willemstein and Schiphorst (2010). This model focuses on authenticity in an organizational setting. Authenticity is defined as the “degree that one’s feelings, behaviors and thoughts are congruent with the true self and compatible with one another” (Willemstein & Schiphorst, 2010). In other words, being authentic concerns being true to yourself and listening to your own heart and values when making choices. In this model, there are also four components: self-insight, self-esteem, autonomy and ownership. Self-insight is mandatory in order to be aware of your personal mission, talents, motives, behavior and feelings. To be loyal to yourself, it is important to have a personal mission, a purpose in life. According to Willemstein and Schiphorst (2010), the second component is self-esteem, which is about knowing and appreciating both your strengths and weaknesses. Being aware of these enables someone to utilize their strengths and further develop their weaknesses. Moreover, autonomy is a component that highlights the importance of experiencing inner freedom, about independence and following your own compass (Krul, 2011).

Being autonomous is important for authenticity because it is centered on doing what you desire and enables one to make conscious choices, giving more inner freedom. Finally, ownership is deemed important because one needs to have an internal locus of control and because it allows you to accept and take responsibility and process information, such as criticism, in an unbiased manner. Thereby enhancing your skills ability (Willemstein & Schiphorst, 2010). According to Kernis & Goldman (2006), high correlations have been discovered between psychosocial resources, such as self-esteem, autonomy, and self-actualization and authenticity.

Higher authenticity was further found to correlate with greater vitality, one of the core constructs of work engagement (Ryan & Frederick, 1997). A study by Krul (2011) found a relationship between authenticity and work engagement, explained by mediators of personal resources, satisfaction of the basic needs and autonomous motivation. Thus, Krul (2011) found an indirect effect of authenticity on work engagement. In addition, research by Bolsenbroek (2010) found authenticity to be a predictor of work engagement. The more authentic individuals are, the more engaged they are. He additionally found each individual dimension of the Willemstein and Schiphorst (2010) model to be positively related to work engagement. Finally, Bolsenbroek (2010), concluded that intrinsic motivation is a partial mediator of the relationship between authenticity and work engagement. Therefore, it is hypothesized that:

Hypothesis 5: (a) More authentic individuals are inclined to experience higher levels of work engagement. (b) This relationship is mediated by autonomous motivation.

Overlap between constructs

When comparing conceptualizations of the constructs, it is apparent that there is considerable overlap. Grit considers passion to be important to success, however according to

Duckworth (2017) passion is insufficient and resilience should be included because without persistence in setbacks one cannot reach their goals or maintain their passion. On the other hand, research by Vallerand, Houlfort and Forest (2014) has shown that harmonious passion, in and of itself, is already a determinant of engagement and performance. They additionally found that harmonious passion (the autonomous internalization of a passionate activity into a person's identity) is a predictor of deliberate practice, and in turn, performance. Since for grit, deliberate practice is essential, this is a possible way that these two concepts overlap. Duckworth argues that passion is insufficient, but do passion and perseverance explain more work engagement and ultimately work performance than harmonious passion alone? Perrewé et al. (2014) found evidence that suggested that highly passionate individuals focus selectively on certain environmental cues and consequently expend their resources. Because they can objectively see the whole picture, they are able to generate more alternative solutions for setbacks (necessary for grit and PsyCap; Duckworth, 2017). High-passionate individuals direct their attention to options that enable them to grow and develop (Perrewé et al., 2014). This, too, compares to the definitions of hope and optimism and Zigarmi et al. (2010) even argued that work passion has been associated with optimism. Moreover, harmonious passion can also be seen as a potential form of Psychological Capital because it has a buffering effect against stress and positively influences behavior (Van der Knaap & Steensma, 2015; Luthans et al., 2007b).

Moreover, resilience is not only included in the construct of grit, but also in PsyCap. There are various definitions of resilience. When resilience is described as the ability to appraise situations without distorting them and thinking about possible changes in your life, it is similar to optimism (Perkins-Gough & Duckworth, 2013). When, on the other hand, resilience is defined as bouncing back from adversity, it is not the same as optimism, and could be closer linked to the

description of perseverance (grit). Grit is related to resilience because part of being gritty is being resilient in the face of failure or adversity (Perkins-Gough & Duckworth, 2013). What all these definitions of resilience share is the idea of responding positively to failure or adversity. Another construct of PsyCap, hope, is also mentioned by Duckworth (2017) to be an important factor for grit. Thus, it appears that grit and PsyCap have possible overlapping constructs because to develop and possess grit, hope and resilience are essential.

The constructs of grit and purpose in life are also associated. To have grit, one must have a higher-order goal that is pursued with passion and resilience and therefore, Duckworth argues that purpose in life is an important determinant of grit (Duckworth, 2017). Individuals that have developed exceptional levels of grit, have more than just interests, they have passion, which is closely linked to passionately pursuing purpose in life (Duckworth, 2017). It was, also, concluded in a study by Von Culin et al. (2014) that motivational correlates of grit are pursuit of engagement and meaning, further signifying the importance of meaning in life for grit. Furthermore, Ultee (2012), discovered that if people can act in accordance with their superordinate life goals (according to their purpose in life) and be their core self (authenticity), they can get absorbed with what they are doing, which can give them energy (and increase engagement). Finally, authentic individuals also have more confidence and self-esteem (the construct of self-efficacy in PsyCap) (Willemstein & Schiphorst, 2010). Thus, it can be suggested that there is considerable overlap in constructs based on conceptual definitions, however, the causality and direction of these relationships is unclear because the overlap is largely due to similar operationalization.

Therefore, based on the conceptualization and the overlap of the various constructs, an explorative analysis is performed to find the clearest structure and construct that explains work engagement the best. The aim is, furthermore, to study the similarities and differences in the

constructs and whether some constructs might be redundant due to high overlap with the other constructs. It might also be possible that there are overarching factors, beyond the variables in their current constructs (such as resilience in PsyCap, perseverance in Grit and harmonious passion), that have a stronger relationship with work engagement combined than in their current form (for example, hope, optimism, resilience and self-efficacy in PsyCap). For instance, Ion et al. (2017) found that grit had limited power in predicting work-related outcomes and the conceptualization of grit has indicated that it shares a lot of overlap with other constructs such as harmonious passion, and hope and resilience from PsyCap. Since there are several constructs that contain subconstructs that might explain work engagement by themselves, this analysis will explore what explains work engagement the best when all sub constructs are considered together without their previous forms. For example, instead of measuring PsyCap and grit, their sub constructs will be used, namely hope, optimism, self-efficacy, resilience, passion and perseverance. Moreover, one explorative analysis will also specifically test how the concept of work engagement is different from all the other concepts in this study, since several studies have mentioned that work engagement also has considerable overlap with resources, such as harmonious passion (Van der Knaap & Steensma, 2015; Birkeland & Burch, 2014).

Proposed model

Based on the literature and the hypotheses, a model is proposed, as seen in figure 1. The model represents the predicted relationships between the personal resources and work engagement with autonomous motivation as a mediator. Since work engagement has been proven to lead to increased work performance it is included in the model, however, this empirical study will not include work performance as a measured variable. Work performance is, therefore, also not

mentioned in the formulated hypotheses but it is included in the model because it is relevant for organisations.

Krul (2011), furthermore, concluded in his study that the process for the relation between personal and job resources and work engagement relied on motivational processes explained by autonomous motivation of the SDT. There is also a direct relationship between autonomous motivation, specifically intrinsic motivation and integrated regulation, and work engagement, (Krul, 2011; Deci & Ryan, 2000). Therefore, it is hypothesized in the proposed model (figure 2) that autonomous motivation (conceptualized by intrinsic motivation and integrated regulation) leads to higher work performance, which is supported by Cerasoli, Nicklin and Ford (2014). The model of Bakker and Demerouti (2007), as seen in figure 2, further supports the reasoning that an increase in personal resources, such as psychological capital and grit, increases the ability of employees to tolerate job demands and experience positive states of mind. This in turn is associated with more work engagement which leads to higher work performance (Costantini et al., 2017).

Moreover, as seen in figure 1, the proposed model in this study includes additional personal resources aside from the model by Bakker & Demerouti (2007). These personal resources are included because the focus of this study is on personal resources and not the interaction between personal and job resources. Aside from the four PsyCap constructs of optimism, self-efficacy, resilience and hope, the two constructs of grit, passion and perseverance, harmonious passion, purpose in life and authenticity are included. Based on this model, this study aims to answer the question: what is the clearest structure to explain factors positively associated with an increase in employee work engagement?

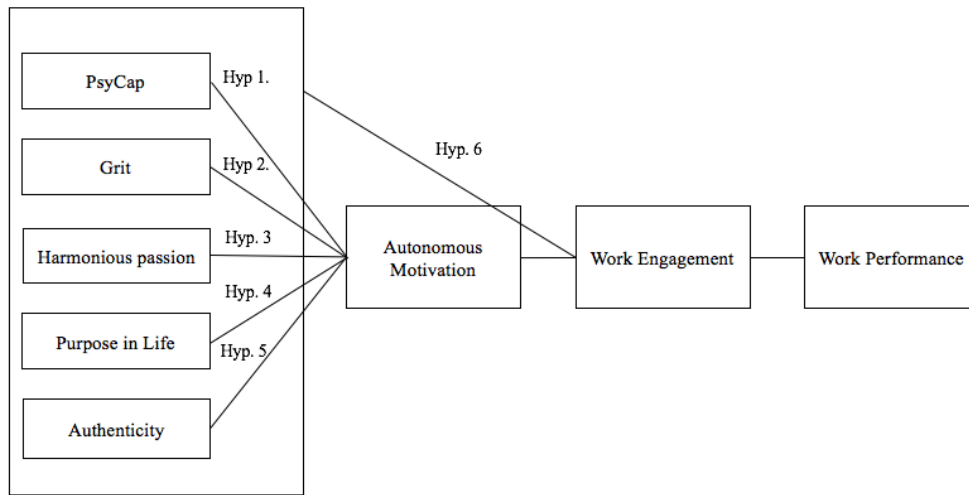
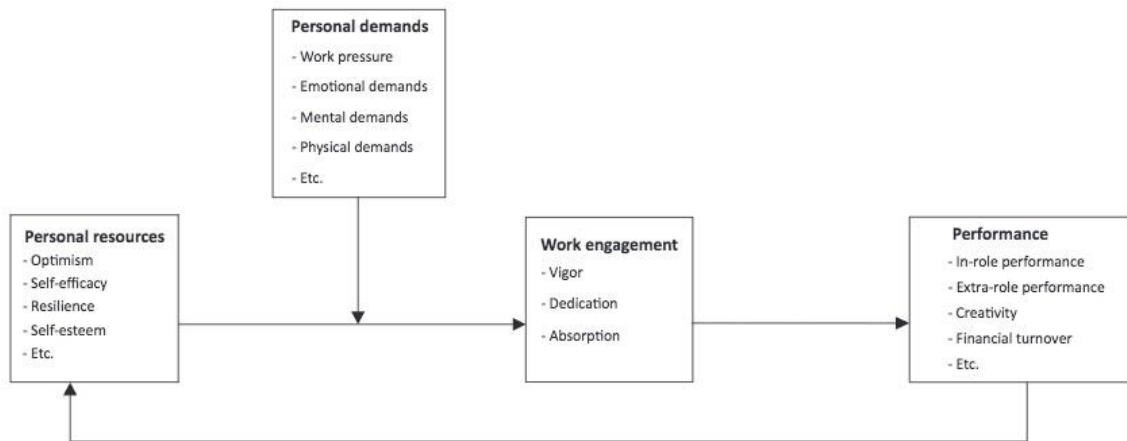


Figure 1. Proposed model of the role of personal resources on work engagement and performance.



Source: Bakker, A.B. & Demerouti, E. (2007). The job demands resources model: state of the art. *Journal of Managerial Psychology*, 22, 309-328.

Figure 2. The role of personal resources in work engagement.

Aside from the first five formulated hypotheses, there is research that suggests that personal resources combined might have a larger effect on, for example, work engagement. Hobfoll (2002) argued that resources generate other resources which results in outcomes such as higher well-being. Luthans and his colleagues (2007b) further state that when the separate underlying constructs of PsyCap are combined they have a larger effect than the individual constructs by themselves.

Additionally, according to the Broaden-and-Build Theory by Fredrickson (2001), positive emotions broaden people's action-thought repertoires and enable them to build their enduring personal resources, such as resilience. The more personal resources a person accrues, the more positive emotions they experience and thus, a positive upward spiral is developed that leads to higher well-being and satisfaction. Based on these studies, the final hypothesis of this study is formulated regarding the interaction and combined effect of the personal resources on work engagement:

Hypothesis 6: The more personal resources are combined, the stronger the positive relationship with work engagement.

Methods

Research Design and Procedure

The present study is a cross-sectional field study consisting of one digital survey, which utilizes several self-report questionnaires to collect data. The survey was made and distributed with Qualtrics. Since this study investigated the relationship between psychological resources and work engagement, the survey was directed towards employees. It was, therefore, necessary that questionnaire respondents were employed at the moment of partaking in the study, but it did not matter in what sector participants worked. This survey includes seven instruments measuring the independent and dependent constructs. The independent variables measured are the grit constructs of passion and perseverance, the PsyCap constructs of optimism, self-efficacy, hope and resilience, purpose in life, harmonious passion and authenticity. The measured dependent variables are autonomous motivation (as the mediator variable) and work engagement. Additionally, several questions concerning demographic data were included, such as age, sex, nationality, type of work, and level of education. The survey was in both Dutch and English. Respondents were recruited through personal social network, using LinkedIn and Facebook. Working individuals in the personal network were directly asked to fill out the survey and on personal social network individuals were asked to share the survey link so more respondents, in more countries, could be reached. The online survey was presented as research about the effect of perceptions and attitudes at work on work motivation and engagement. The aim was to have at least 200 respondents. Participation in the survey was voluntary, took approximately fifteen minutes, and no reward was given. Finally, it was conveyed to respondents that data was treated confidentially.

Participants

In total, 117 of 225 of recruited participants finished the entire survey between May 16, 2018 and July 2, 2018 and, therefore, 117 participants were used in the data analysis. Of these 117 participants, 24% took the survey in English and 76% completed it in Dutch. Most of the participants were female (76%) and the biggest age groups were under 25 (29%), between 25 and 34 (17%) and between 45 and 49 (21%). Moreover, most participants lived in the Netherlands (78%). The criteria required that individuals had to be employed while responding to the survey. The data analysis showed that 113 participants were currently employed and only 4 individuals were not employed. However, because those individuals were retired the survey was still relevant for them and they were included in the data set. Most participants had a college (HBO) degree as the highest level of education (34%), but 23% also had a master's university degree. A correlation test was performed to see whether survey language had a relationship with the theoretical variables. The only significant correlation was between participant language and harmonious passion, $r_{pb} = -.38, p < .001$. Thus, in general, English speaking respondents in this questionnaire indicated to possess less harmonious passion compared to Dutch speaking respondents. Moreover, participants worked in all different kinds of branches and departments, with most respondents being an employee (65%) and several top managers (12%). When asked how satisfied participants were at work in general, 30% of respondents respond to being extremely satisfied, 56% of participants were satisfied and no individual was extremely dissatisfied.

Instruments

Several questionnaires were included in the survey to test the model and hypotheses. These instruments, in both Dutch and English, were all thoroughly tested for reliability and validation and

are widely used in the literature. Some existing instruments had to be translated into Dutch whereas others were already available, such as the validated Dutch Passion for Work scale (Van der Knaap & Steensma, 2015). With the translated instruments, back-to-back translations were used. For some questionnaires, the shorter version was utilized in the survey because otherwise the questionnaire would become too lengthy. Moreover, 10 questions about demographics were included, such as company, gender, age, highest level of education completed and a description of respondents' position within the company. Finally, two questions regarding work satisfaction and amount of time spent on work each week were included. In total, the questionnaire was composed of 119 items and all questionnaires are included in Appendix B (both English and Dutch versions). The items were not randomized but remained within their own scale. There were five instruments measuring the various psychological resources, one questionnaire pertaining to work motivation and one assessing work engagement.

Psychological Capital Questionnaire (PCQ). The PsyCap variable is composed of a mean score of 24 items of the PCQ by Luthans et al. (2007a), constructed of six questions per PsyCap construct. The resulting scores represent an individual's level of PsyCap at that moment. The respondents used a 6 point Likert scale to indicate the level of agreement or disagreement with each PsyCap statement (1 = "strongly agree" and 6 = "strongly disagree"). Each of the four subscales of PsyCap was drawn from established scales that had been previously published and had been tested and used in recent workplace studies (Luthans et al., 2007a). The Psychological Capital Questionnaire was translated into Dutch since there were no Dutch versions available. An example of a statement regarding self-efficacy is "I feel confident presenting information to a group of colleagues" and an example of a statement pertaining to hope is "if I should find myself in a jam at work, I could think of many ways to get out of it". A statement concerning optimism is "when

things are uncertain for me at work, I usually expect the best”. Finally, a resilience statement is “I usually take stressful things at work in stride”.

Grit. The grit variable is usually composed of a mean score of 12 items of the grit Scale developed by Duckworth, Peterson, Matthews & Kelly (2007). However, Angela Duckworth used a 10-item version in her book on grit and this was adopted in the questionnaire to reduce the amount of items (Duckworth, 2017). The 8-item Dutch version from Meijer and Cleiren (2014) was used and the two additional items were back-to-back translated. Respondents used a 5 point Likert scale to indicate how they compare to “most people” on each statement (1= “not at all like me” and 5= “very much like me”). The maximum score on the scale is 5 (extremely gritty) and the lowest possible score is 1 (not gritty at all) (Duckworth, 2017). The score is a reflection of how individuals see themselves at that moment. There are two components measured by the grit scale: perseverance and passion (consistency over time), which in the present study both have 5 statements. An example of a statement measuring perseverance is “I have overcome setbacks to conquer an important challenge” and an example of a passion statement is “I become interested in new pursuits every few months” (Reverse scoring).

Passion toward Work Scale (PTWS). The PTWS is based on Vallerands’ Dualistic Model of Passion (Marsch et al., 2013). Van der Knaap and Steensma (2015) validated the Dutch version of the passion toward Work Scale. This Scale contains 16 items, of which six focus on harmonious passion, six on obsessive passion and four items on general passion criteria. Respondents used a 7 point Likert scale to indicate to what extent they agree with each item (1= “strongly agree” and 7= “strongly disagree”). They were asked to think of work when answering the items. An example of passion criteria statement is “I spend a lot of time doing my work” and of harmonious passion is

“this activity is in harmony with the other activities in my life”. In this study, only harmonious passion was included in the analyses.

Life Engagement Test. The scale used to measure purpose in life was the Life Engagement Test (Scheier et al., 2006). The Dutch version was obtained and validated by Ultee (2012). This scale contains 6 items, such as “to me, the things that I do are worthwhile” and “I have lots of reasons for living”. The items were answered on a 5-point Likert scale and indicate to what extent the respondents agree to each statement (1= “strongly disagree” and 5= “strongly agree”). In order to find a purpose in life score, items 1, 3 and 5 were reversed coded and then all six items were summed. The list of items has good psychometric properties according to Scheier et al. (2006).

Authenticity Inventory. The Authenticity Inventory contains 45 items (Kernis & Goldman, 2006). The shortened Dutch version, developed by Ultee (2012), was incorporated into the survey and contained 16 items, 4 items per component. The Dutch version was used to develop the shortened English scale by using the same items as used in the validated Dutch authenticity scale. The four measured components were awareness, unbiased processing, behavioral and relational orientation and these items were answered on a 5-point Likert scale (1= “strongly disagree” and 5= “strongly agree”). This scale contains questions such as “I actively attempt to understand myself as best as possible” and “I find that my behavior typically expresses my values”.

Work Extrinsic and Intrinsic Motivational Scale (WEIMS). Autonomous motivation was measured with the WEIMS (Trembley, Blanchard, Taylor, Pelletier & Villeneuve, 2009). The Dutch version was obtained from Van der Veen (2014). This is an 18-item scale, that is divided into six subscales of three items, corresponding to the six types of motivation (intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation and amotivation) as proposed by the SDT. However, since amotivation is defined as lack of motivation

it is not included in analyses since this study assumes that there must be some form of motivation present. Respondents had to indicate to what extent the items represented the reasons they are currently involved in their work on a 7 point Likert scale (1= “does not correspond at all” and 7= “corresponds exactly”). The scale contains statements such as “because I derive much pleasure from learning new things” and “because it allows me to earn money”. Since Deci & Ryan (2000) found that the two forms of motivation, intrinsic motivation and integrated regulation, directly influence work engagement these two forms of motivation were considered as autonomous motivation in the data analyses.

Utrecht Work Engagement Scale (UWES). Finally, work engagement was measured with the UWES (The Dutch Version was the *Utrechtse Bevlogenheidschaal, UBES*; Schaufeli & Bakker, 2003). The Dutch and English version were developed by the same researchers, Schaufeli & Bakker (2003) and both have been validated. The scale consists of 17 items that measure vitality/vigor (6 items), dedication (5 items) and absorption (6 items). These items were answered on a 7-point Likert scale (ranging from 0= “never” to 6= “always (daily)”). An example of the vitality subscale is “at my work, I feel bursting with energy”, and of the dedication is “my job inspires me”. “When I get up in the morning, I feel like going to work” is an example of the vigor subscale.

Data Analysis

The data was analysed in IBM SPSS. Prior to the data analysis, several scales had items that needed to be recoded. Specifically the PsyCap and passion scales had to be completely recoded in SPSS so that all scales had the lowest option (1) as the option respondents identified with the least and the highest option (6 or 7 respectively) as the response respondents identified with the

most. The data was first analysed with a univariate analysis, for all variables, to calculate the mean and standard deviations. Furthermore, Cronbach's alpha was measured as a reliability statistic per instrument and per subconstruct measured in the instrument. The Cronbach's alpha coefficients were assessed based on the guidelines proposed by George and Mallery (2003) with Cronbach's alpha being $> .9$ Excellent, $> .8$ Good, $> .7$ Acceptable, $> .6$ Questionable, $> .5$ Poor, and $< .5$ Unacceptable. Subsequently, correlations were performed between all variables through a bivariate analysis. With a bivariate correlation, the relationship between all variables, including age, was examined. The strength of the relationship depended on the Pearson correlation coefficient, and the rule of thumb according to Hinkle, Wiersma and Jurs (2003) as mentioned in Mukaka (2012) was followed. This rule of thumbs states that when r has an absolute value between .9 and 1, there is a very high correlation, but most likely also multicollinearity, when r is between .7 and .9 there is a high correlation, between .5 and .7 there is a moderate correlation, between .3 and .5 a low correlation and between .0 and .3 there is negligible correlation.

To determine if the personal psychological resources of PsyCap, grit, purpose in life, authenticity and harmonious passion have a positive association with work engagement, part of the first five hypotheses, a multiple regression was conducted. This regression was also performed for the explorative aspect of the study in determining which constructs explain work engagement the best and whether some constructs might be redundant due to low insignificant levels of unique explained variance. A hierarchical regression was performed to include age as confounder since a correlation analysis including demographic variables indicated that age is significantly correlated to several of the variables. Thus, through entering age as variable in the first block of the hierarchical regression analysis, the analysis answers what the association between the personal resources and work engagement is after correcting for age. (Field, 2013). In this analysis, age, grit,

PsyCap, harmonious passion, purpose in life and authenticity were the independent variables and work engagement was the dependent variable. Autonomous motivation was considered an independent variable in the regression analysis but it was considered a mediator for the mediation analysis. Thus, depending on the analysis, it was used as either a dependent or independent variable. Moreover, prior to the correlation and multiple regression analysis, several assumptions were assessed. Normality was checked by examining values of skewness and kurtosis. However, when the F test is significant, and thus robust, there is normality in the data (Field, 2013). The standardized skewness and kurtosis should not deviate too far from 0 for the data to be normally distributed (Field, 2013). Moreover, linearity and homoscedasticity were checked with a residual plot even though it is unnecessary when F is robust. Whether there was an absence of multicollinearity was assessed with the variance inflation factors (VIF) and tolerance. Multicollinearity was checked to determine whether there was similarity between the independent variables in the model. Good regression models should not have strong correlation between the independent variables. If the tolerance is larger than .1 then there is no multicollinearity. Moreover, the VIF values should all lie between one and ten for there to be no multicollinearity (Field, 2013). Finally, outliers were checked because small samples are more vulnerable for outliers than large samples. Data points should have no standardized residual larger than 3 and the leverage values should be smaller than the leverage criterion (Field, 2013). However, when the largest Cook's distance is smaller than 1, even if there are outliers it indicates that they are not influential outliers.

To assess the second part of the first five hypotheses, stating that personal psychological resources are positively associated to work engagement with autonomous motivation as a mediator, five mediation analyses were conducted. Although mediation analysis is scientifically considered not appropriate with cross-sectional studies, mediation is often still used to check for the effect of

the mediator. Without a longitudinal study, it is generally considered not possible to draw causal inferences making mediation analysis not suitable for cross-sectional study designs. However, it is also common in studies to still use mediation analysis to understand whether a certain variable is or could be a mediator (Maxwell & Cole, 2007). For that reason, mediation analysis is performed in this analysis, even though it is not used to draw causal inferences, but merely to understand the effect of the mediator on the relationship between the independent and dependent variable. Relevant assumptions were checked with the regression analysis. To assess for mediation, three regressions per psychological resource were performed. For autonomous motivation to be the mediator, four conditions must be met:

1. The psychological resource must be related to work engagement.
2. The psychological resource must be related to autonomous motivation.
3. Autonomous motivation must be related to work engagement when the psychological resource is included, and
4. The psychological resource should no longer be a predictor of work engagement when autonomous motivation is present (in order for there to be full mediation).

The significance of the mediation effect was assessed using the Sobel test (using the online Sobel test tool from Preacher and Leonardelli, 2001). When the Sobel test is significant it signifies that the predictor, in this case one of the personal resources, significantly affects work engagement via autonomous motivation. Thus, there is significant mediation even if the relationship between the predictor and work engagement is not fully mediated by autonomous motivation (Field, 2013).

Explorative Analysis

For the explorative analysis of the model, several questions were posed. More specifically, which constructs have the highest association with work engagement, whether there are

overarching factors that have a stronger relationship with work engagement than in their current form and if constructs measure separate aspects or if there is a lot of overlap between the constructs. The first question is mainly answered through a correlation and regression analysis. To examine the second question, a higher order analysis with subconstructs was performed to reduce the variables into several components that could account for the correlated variance among the predictors. In the higher order analysis, the sub-constructs were included instead of all separate items due to small sample size and to facilitate the reduction to a few core underlying components, which is more difficult with 119 items. Moreover, sub-constructs were used instead of the entire constructs because there might be sub-constructs that explain work engagement better than other sub-constructs in the construct. However, the sub-constructs of obsessive passion, the passion criteria and amotivation were not included in the analysis because these variables were not included in the model and are thus not relevant for the possible underlying constructs. As a positive personal resource, it was hypothesized that harmonious passion was positively associated with work engagement and not obsessive passion. Additionally, the passion criteria are included in the scale only to measure to what extent people are actually passionate. Furthermore, this study includes motivation as a mediation variable but it assumes that if people have amotivation there should be no association. After new overarching factors were determined through the principal component analysis, another regression analysis was performed including the new components and old constructs. For this regression analysis, a forced entry method was used because this is often recommended as the best analysis method when the better predictor is unknown (Field, 2013; Studenmund & Cassidy, 1987). Because in the analysis method, the aim was to find the best predictors of work engagement, the overarching factors or the previous constructs, all variables

were entered at the same time instead of using a predetermined order as done in a hierarchical multiple regression analysis (Field, 2013).

Finally, the third question was explored with a face value analysis and by carrying out a principal component analysis including the subconstructs of work engagement. Since the aim of the first principal component analysis was to find overarching factors associated with work engagement, the sub-constructs of work engagement were not included in the main principal component analysis. However, since literature mentioned that there is possible overlap between several of the personal resources and work engagement, an additional principal component analysis including the sub-constructs of work engagement was performed to check to what extent work engagement is similar and/or different to the other constructs. High correlations between variables and small unique variance explained by every predictor might be explained due to the high overlap between items of these variables. Additionally, a face value analysis of the items was performed. In this face value analysis, items of every scale were compared to identify overlap and similarity between items.

The criteria used for the components was based on eigenvalues larger than one and the inflexion point in the scree-plot. First, a PCA was performed without a specific number of components and then a PCA was executed based on the criteria and ability to draw conclusions with the components. Although an Oblimin principal component analysis is often recommended when there are theoretical grounds for expecting factors to correlate, Varimax PCA is more commonly used and is easier to interpret. A varimax rotation attempts to load smaller number of variables highly on each factor, resulting in more interpretable clusters of factors (Field, 2013). Therefore, to better interpret the results and to find overarching factors, a varimax rotation was used. To check for the suitability of the data, the assumptions of Kaiser-Meyer-Okin measure of

sampling adequacy (KMO), sample size and Bartlett's test were checked. The KMO should be larger than .5 but it is preferred to be above .7 (Kaiser, 1974). This indicates that the data has a clear factor structure and that the partial correlations between the pairs of variables are smaller compared to the zero-order correlations. Moreover, Bartlett's test was performed to test whether the null hypothesis, namely that all correlations between variables are zero, holds true. There are two rules of thumb for sample size, (a) $N \geq 300$ or (b) $N/p \geq 10$ (with p being number of predictors). However, if the KMO is large enough, the sample size is not as relevant.

Results

Univariate analysis

Through a univariate analysis, means and standard deviations were computed for all the variables. Grit, Authenticity and Purpose in Life scores ranged from one to five, vigor, dedication and absorption (Work engagement) and PsyCap scores ranged between one and six, and finally, passion and the various sub constructs of autonomous motivation scores ranged from one to seven. Higher scores indicated higher alignment with that subscale. The means, standard deviations and Cronbach alpha values of the scales and subscales are presented in Table 1 on page 42. Cronbach's alpha values were computed to assess the internal consistency of the scales. All scales, except for grit perseverance, PsyCap optimism and introjected regulation, were acceptable (George & Mallery, 2003). The alpha values for grit perseverance (.53), PsyCap optimism (.54) and introjected regulation (.58) indicates that the internal consistency of these scales was poor. However, because the instrument and its subscales have been tested as reliable, all subscales were used in the analysis. The means and standard deviations were computed by averaging the scores of all items combined per construct and per sub construct.

Table 1

Cronbach Alpha Values, Means and Standard Deviations for grit, PsyCap, Passion, Authenticity, Purpose in Life, Work Engagement, and the Work Motivation Mean Scores

	α	N of items	<i>M</i>	<i>SD</i>
Grit	.68	10	3.64	.48
<i>perseverance</i>	.53	5	3.34	.64
<i>passion</i>	.62	5	3.95	.50
PsyCap	.85	24	4.74	.45
<i>Resilience</i>	.67	6	4.73	.57
<i>Hope</i>	.81	6	4.89	.57
<i>Optimism</i>	.54	6	4.53	.58
<i>Self-efficacy</i>	.84	6	4.81	.72
Passion		16		
<i>Harmonious Passion</i>	.85	6	5.58	.93
<i>Obsessive Passion</i>	.85	6	2.97	1.19
<i>Passion Criteria</i>	.77	4	5.38	1.05
Authenticity	.82	16	3.76	.48
Purpose in Life	.77	6	4.02	.61
Work engagement	.93	17	5.06	.99
<i>Vigor</i>	.79	6	4.78	1.01
<i>Dedication</i>	.77	5	5.25	1.01
<i>Absorption</i>	.84	6	5.18	1.12
Work motivation	.82	18	3.95	.79
<i>Autonomous motivation</i>	.82	6	4.89	1.07
<i>Intrinsic motivation</i>	.72	3	5.19	1.11
<i>Integrated regulation</i>	.80	3	4.59	1.29
<i>Identified regulation</i>	.68	3	4.11	1.41
<i>Introjected regulation</i>	.58	3	3.97	1.27
<i>External regulation</i>	.70	3	4.03	1.37
<i>Amotivation</i>	.72	3	1.72	.93

Note. Autonomous motivation is a combination of intrinsic motivation and integrated regulation

Hypotheses testing

To test the first part of the first five hypotheses, which hypothesized that when individuals have higher levels of a personal resource they also possess higher work engagement, a bivariate correlation and a multiple linear regression were conducted. Prior to conducting the correlation and regression, the assumptions of normality, homoscedasticity, linearity, outliers and absence of

multicollinearity were assessed. Skewness and kurtosis were examined and all values met the assumption. These values can be found in Table 8 in the appendix. Linearity and homoscedasticity were checked, but because F was robust ($F(7,107) = 30,858. p < .001$), the assumption of normality, linearity and homoscedasticity would have been met regardless of the assumption being violated or not. There was also no multicollinearity as all variables had a Tolerance higher than .1 and VIF values between one and ten. Moreover, there were no outliers on the independent variable with a standardized residual larger than 3. The largest leverage value was .296 which is larger than the leverage criterion of .208. Thus, on the independent variable there were two outliers larger than .208. However, the largest Cook's distance was .281 which is much smaller than 1 and thus, there were no influential outliers.

The bivariate correlation analysis, as shown in table 2 on page 44, indicated that all predictors had a significant relationship with work engagement ($p < .001$). The direction of these relationships was positive, suggesting that larger amounts of the personal resources was associated with higher levels of work engagement. In other words, the more gritty, the more authentic, the more purpose in life an individual possessed, the more harmonious passionate and the more resilient, hopeful, optimistic and self-efficacious an individual is, the more work engagement they possessed. Additionally, in general, apart from age, all significant correlations between the independent variables were positive. Suggesting that the more of one personal resource you possess, the more other personal resources you have. For example, higher levels of authenticity are not only associated with higher levels of work engagement, but also with grit, PsyCap, harmonious passion, purpose in life, work motivation and autonomous motivation. Thus, the correlations suggest that there is an underlying association between the personal resources with each other and work engagement. The strength of the relationship between the personal resources and work

engagement varied. When considering the rule of thumb by Hinkle and colleagues (2003), all variables were positively related to work engagement. Autonomous motivation and work engagement were highly correlated ($r = .7$) and there was a moderate relationship (r is between .5 and .7) between PsyCap and harmonious passion with work engagement. Finally, the other variables, age, grit authenticity and purpose in life, had a low positive correlation (r is between .3 and .5) with work engagement. However, it can be concluded that all variables have a significant association with work engagement.

Table 2

Correlations between age and the independent and dependent variables

	Age	Grit	PsyCap	Harm. Pass.	Auth.	P.I.L.	Work Mot.	Auto. Mot.	Work Eng.
Age	1								
Grit	.23**	1							
PsyCap	-.25**	.45**	1						
Harm. Passion	-.17*	.23*	.46**	1					
Authenticity	.12	.47**	.52**	.30**	1				
Purpose in Life	.13	.27**	.29**	.34**	.42**	1			
Work motivation	.03	.10	.33**	.26**	.34**	.13	1		
Auton. motivation	.22*	.23*	.45**	.49**	.48**	.27**	.79**	1	
Work engagement	.34**	.45**	.58**	.58**	.43**	.40**	.51**	.70**	1

Note. $N = 117$, ** $p < .001$ * $p < .05$ (two-tailed)

To study whether the model significantly predicts work engagement and which variables predict the most variance in work engagement, a hierarchical regression analysis was performed to determine the relationship between work engagement and the whole set of predictors. A hierarchical regression analysis indicates which predictors had a significant unique contribution to the explanation of work engagement. The method of hierarchical regression was used so these relationships could be analysed controlling for the effect of age. Age was included as a confounding

variable of the analysis because the bivariate correlation had shown that age correlated with work engagement and several other predictors of work engagement. The Durban-Watson was acceptable (DW=1.92), indicating that there is no correlation of error.

Table 3

Hierarchical Regression Analysis of the predictors on work engagement controlling for age

Variable	B	SeB	β	R^2	sr^2	F test
Step 1				.10		$F(1, 113) = 12.80, p = .001$
Age	.15	.04	.32**		.100	
Step 2				.67		$F(7, 107) = 30.86, p < .001$
Age	.04	.08	.08		.005	
Grit	.42	.20	.20*		.028	
PsyCap	.42	.17	.19*		.020	
Harm passion	.20	.07	.19*		.023	
Authenticity	-.24	.15	-.12		.008	
Purpose in Life	.22	.10	.14*		.014	
Autonomous Mot	.43	.07	.47**		.138	

Note. $N=115$, Work engagement is the dependent variable, * $p < .05$ ** $p \leq .001$, sr^2 = the squared semipartial correlation indicate the unique variance predicted by the independent variables.

When purpose in life, autonomous motivation, grit, harmonious passion, authenticity and PsyCap were included in the model, after controlling for age, 67% of variance was accounted for in the model. The results can be found in table 3. This is an 57% increase of predictive variability of work engagement and thus, the second model explains more variability in work engagement, $\Delta R^2 = .567, p < .001$. However, both model 1 including only age and model 2 including all other relevant variables were statistically significant and thus, the variables in the model significantly explain variance of work engagement. This reinforces previous findings from the correlation

analysis that there is a significant relationship between personal resources and work engagement, and thereby confirms the first part of hypothesis 1 to 5. In other words, individuals who possess higher levels of psychological capital also tend to have higher levels of work engagement, grittier individuals, in general, have higher levels as work engagement, as well as individuals with a clearer sense of purpose in life. Furthermore, more authentic individuals and more harmonious passionate individuals are inclined to experience more work engagement.

In the first model, age is a significant predictor of work engagement and in the second model, all variables, except for age and authenticity, are significant predictors of work engagement in this model. Since the second model explains 57% more variance in work engagement, age has a relatively small impact on work engagement. However, table 3 shows that higher levels of the positive psychological resources of grit, PsyCap, harmonious passion and purpose in life as well as more autonomous work motivation are associated with higher levels of work engagement. Autonomous motivation, grit, harmonious passion and PsyCap have the largest explained variance and unique contribution to work engagement, explaining 13.8%, 2.8%, 2.3% and 2% respectively. Since the model explains 67% of the variance of work engagement, these results indicate that there is considerable overlap between the predictors. This conclusion is based on the fact that all the variance uniquely explained by the variables is 23.6% and the model explains 67% of variance, signifying that more than 40% variance of work engagement is explained by an overlap between predictors.

Explorative Analyses

Aside from the hypotheses, the explorative analysis aimed to answer several additional questions, including whether there is a lot of overlap between the constructs. According to these results, not only is hypothesis 6 confirmed, namely that the more personal resources are combined,

the stronger the positive relationship with work engagement, but it is also apparent that there is a large amount of overlap between the constructs and a considerable amount of explained variance of work engagement is shared between the variables. The explorative analysis further aimed to understand which constructs have the highest association with work engagement. According to both the bivariate correlation analysis and hierarchical regression analysis, autonomous motivation has the highest association with work engagement and explains the most unique variance of work engagement in the model. Additionally, harmonious passion, grit and PsyCap, have relatively high associations with work engagement and are significant predictors of the work engagement in this model, explaining an aspect of work engagement that the other variables do not.

The previous analyses have shown that there is a significant positive relationship between the personal resources and work engagement. To answer the second aspect of the first five hypotheses, whether the relationship between the personal resources and work engagement is mediated by autonomous motivation, and to test the proposed model, five separate mediation analyses were performed. To have full mediation, in the second step of the analysis when autonomous motivation is included in the analysis, the predictor should no longer have a significant beta weight. The mediation analyses indicate that, as shown in table 4 on page 48, only the relationship between authenticity and work engagement was fully mediated by autonomous motivation. However, this is reasonable when considering the results from the regression analysis when in the second model authenticity no longer had a significant unique contribution whereas autonomous motivation had the largest unique contribution and relationship with work engagement.

Table 4

Mediation Analysis with autonomous motivation (AM) as mediator variable between personal resources and work engagement

Predictor	Step 1: predictor & work engagement			Step 2: predictor, autonomous motivation & work engagement			Sobel test
	R^2	F test	β	R^2	F test	β	
1. PsyCap (PC)	33.7	$F(1,115)=$ 58.47**	.58**	57.1	$F(2,114)=$ 75.74**	PC: .34** AM: .54**	$z= 4.79^{**}$
2. Grit (GR)	20.1	$F(1,115)=$ 28.94**	.45**	56.9	$F(2,114)=$ 75.40**	GR: .31** AM: .62**	$z= 2.42^*$
3. Purpose in Life (PIL)	15.7	$F(1,115)=$ 21.50**	.40**	52.8	$F(2,114)=$ 63.74**	PIL: .23** AM: .63**	$z= 2.86^*$
4. Authenticity (AU)	17.1	$F(1,115)=$ 23.66**	.41**	49.2	$F(2,114)=$ 55.11**	AU: .12 AM: .64**	$z= 4.86^{**}$
5. Harmonious passion (HP)	33.7	$F(1,115)=$ 58.56**	.58**	55.6	$F(2,114)=$ 71.43**	HP: .32** AM: .54**	$z= 5.22^{**}$

Note. * $p < .05$ ** $p \leq .001$

The mediation analysis further showed that the personal resources of PsyCap, grit, purpose in life and harmonious passion are both directly associated with work engagement and indirectly through autonomous motivation. Although for these variables there was no full mediation, the Sobel test was significant for all of these variables and thus, there was significant indirect effect (mediation) present in the relationship between the personal resources and work engagement. Moreover, without the mediator, there is a strong significant relationship between the predictors

and work engagement. When autonomous motivation is included, the strength of this relationship decreases slightly, but only for authenticity is this decrease significant enough for there to be full mediation. Therefore, hypothesis 4 is fully supported and the second part of hypothesis 1, 2, 3 and 5 is partially supported.

In the explorative analysis, the first question, which constructs associate the strongest with work engagement, was largely answered with a correlation and regression analysis. For the second question, a principal component analysis was performed as an explorative analysis of the structure of the model and to reduce the variables into several components that can account for the correlated variance among the predictors. Two different principal component analyses were performed: one without the subconstructs of work engagement and one including the subconstructs of work engagement. The first analysis did not include work engagement, because for the exploration work engagement needed to be able to be assessed as a dependent variable in a regression analysis with the new components from the PCA. The KMO was .818 which indicated that the data was suitable for a principal component analysis because of a clear factor structure. It also signifies that the small sample size was passable. Moreover, Bartlett's Test of Sphericity was highly significant indicating that the analysis was not factoring random data. A preliminary analysis indicated that according to the criteria, a three-components solution should be analyzed. There were three components with an eigenvalue larger than 1 and the scree plot indicated that there was an inflexion point between the 2nd and 4th component. In the three-component analysis, the first three components explain a cumulative total variance of 58%.

When interpreting the three-component solution with VARIMAX rotation, there is a distinction between the three components, even though several constructs load highly on multiple components. Interestingly, all the component loadings are positive. Looking at the component

loadings of the positive psychological resources and desired employee attitudes, as table 5 on page 51 indicates, it is possible to differentiate slightly between different types of motivating personal resources. The three components were difficult to clearly differentiate due to the different constructs within the components. The first component is comprised of the more autonomous forms of motivation, intrinsic motivation, identified regulation and integrated regulation, purpose in life, harmonious passion and the Psychological Capital constructs of hope and optimism. It could be ascribed to an intrinsic, autonomous desire by employees to do what they do because they have integrated the work into their identity and it is part of their purpose. The constructs of PsyCap hope and optimism, and purpose in life can be related to intrinsic motivation in that individuals can keep going because they know what they want to achieve. On the other hand, the second component is composed of the PsyCap constructs of self-efficacy and resilience, authenticity and both grit constructs. This overarching factor could be identified as behavioral resilience. In their work, employees feel they are in control of their future and can overcome obstacles and can therefore, bounce back from difficult situation. Through behavioral resilience individuals exhibit solution-focused behavior because they know what they can and want to achieve. Finally, the last component is related to the more extrinsic forms of motivation, introjected and external regulation.

Thus, fourteen variables were reduced to three components and it is possible that these overarching factors explain higher levels of work engagement when considered together than in their previous constructs. To test this, another multiple regression was performed with the new constructs and their unique explained variance of work engagement was compared to the unique explained variance of the previous constructs. The forced entry method was used since this indicates the best which predictors explain the most variance of work engagement and therefore, all variables, both the new overarching factors and old constructs, were added to the model at the

same time. The results are presented in Table 6 on page 52. Component 1, described as being intrinsically motivated, has a stronger relationship with work engagement than the separate constructs. However, since the other constructs already have a rather strong relationship with work engagement, it does not appear to be a much more suitable and more appropriate construct in explaining work engagement variance. Especially because component 2 and 3 have a much weaker relationship with work engagement compared to the other constructs.

Table 5

Rotated Varimax Component Matrix with 3 Components

	Component		
	1	2	3
Eigenvalue	5.0	1.8	1.3
% of variance	35.6	13.1	9.5
External regulation			<u>.709</u>
Introjected regulation	.550		<u>.643</u>
Identified Regulation	.793		.369
Intrinsic motivation	.767		
Integrated regulation	.838		
Purpose in life	.415	.319	
Authenticity	.410	.593	
Harmonious passion	.695		
PsyCap resilience		.716	
PsyCap hope	.580	.549	
PsyCap optimism	.537	.488	
PsyCap self-efficacy		.585	.468
Grit perseverance		.647	
Grit passion		.638	

Note. coefficients below .3 are suppressed

A principal component analysis was performed to check how much overlap work engagement shares with other variables. The analysis, as presented in table 7 on page 54, shows

that the sub constructs loadings of work engagement are loaded on the same component as the constructs of the more autonomous forms of work motivation and harmonious passion. Interestingly, PsyCap hope can also be included in the same component as work engagement, autonomous forms of motivation and harmonious passion. Furthermore, this analysis further reinforces previous findings that there is a strong association between autonomous motivation and work engagement, and that there is a great amount of overlap between these two variables which is why all work engagement sub constructs and intrinsic motivation load so highly on the first component.

Table 6

Forced Entry Regression Analysis Results with Regression Weights of New Components on Work Engagement Compared to Previous Constructs Regression Weights on Work Engagement

	R^2	β
Component 1: Intrinsic motivation	.381	.737**
Component 2: Behavioral Resilience	.029	.192*
Component 3: Extrinsic motivation	.010	-.106
Psychological Capital	.337	.581**
Grit	.201	.448**
Autonomous Motivation	.480	.693**
Harmonious Passion	.337	.581**
Authenticity	.171	.413**
Purpose in Life	.157	.397**

Note. * $p < .05$ ** $p \leq .001$, dependent variable: work engagement

Lastly, a face value analysis was performed where all 119 items of all the constructs were compared to each other to identify if similarity in items could explain overlap or whether the constructs truly measured separate aspects. The analysis did indicate some overlap in items but a lot less than expected, especially based on the results from the previous analyses. For instance, grit passion and harmonious passion did not have any conceptual overlap in their items. This could be explained by the fact that the grit passion items concern having a “long term” interest towards an interest, goal or project and striving to obtain it no matter what happens, whereas the harmonious passion scale is more focused on the harmony and integration of the work with the rest of an individual’s life and identity. It would have additionally been plausible for grit perseverance and PsyCap resilience to have overlap in their items but there was only one similar item regarding recovering from setbacks. This item also overlapped with another item of PsyCap hope and work engagement, concerning proactively thinking about a solution when facing difficulties. Furthermore, PsyCap hope and work engagement have one more overlapping item about being energetic in work and the pursuit of goals. Harmonious passion and intrinsic motivation also had some overlap but not a lot considering the scales possessed 17 and 18 items respectively. The two similar items were regarding the importance of their work for their life and how work is a part of who they are. However, harmonious passion and work engagement did not have any overlap in their items although that could have been expected based on the analysis results and previous research. Both grit perseverance and passion had some overlap in their items, concerning finishing and maintaining interest in projects for a long time, even though it is supposed to measure to different subconstructs. Finally, purpose in life and work engagement had a similar item about the importance and value of what the individual is doing. Thus, there was some overlap between items

of the various constructs but this overlap was not as much as expected based on the conceptualization and results, indicating that the constructs do indeed measure separate aspects.

Table 7

Rotated Varimax 4-Component Matrix with all higher order constructs including work engagement

	Component			
	1	2	3	4
Eigenvalue	6.9	1.8	1.5	1.0
% of Variance	40.6	10.8	8.6	6.0
WE Absorption	.838			
Integrated Regulation	.815			
WE Vigor	.812		.334	
WE Dedication	.754	.340		
Intrinsic motivation	.719			
Identified Regulation	.714			.505
Harmonious Passion	.690			
PsyCap Hope	.636	.552	.529	
PsyCap Self-efficacy		.781		
Grit perseverance		.612		
PsyCap Resilience		.610	.402	
Purpose in Life			<u>.770</u>	
Grit passion		.408	<u>.526</u>	
PsyCap Optimism	.472		<u>.509</u>	
Authenticity	.303	.409	<u>.487</u>	
External regulation			.735	.871
Introjected regulation	.514		<u>.713</u>	.605

Note. Coefficients below .3 are suppressed

Summary of Results

Hypothesis 1 predicted that individuals possessing higher levels of psychological capital (having more hope, optimism, self-efficacy and resilience) are more inclined to experience higher reported levels of work engagement and that this relationship is mediated by autonomous motivation. Correlation and regression analyses indicated that there was a positive relationship between psychological capital and work engagement and that PsyCap explains unique variance in work engagement. The mediation analysis showed that there is a partial mediation of autonomous motivation on the relationship between PsyCap and work engagement. In other words, when an individual has higher amounts of PsyCap, they are more likely to experience higher levels of work engagement, both directly and possibly indirectly through experiencing more autonomous motivation. With cross-sectional studies, no causal conclusions can be drawn, but based on the results it is plausible that part of the association between PsyCap and work engagement can be due to the relationship between PsyCap and autonomous motivation and between autonomous motivation and work engagement. Similar results were found for hypothesis 2, predicting that grittier individuals tend to also experience higher work engagement, and that this relationship is mediated by autonomous motivation, hypothesis 3, stating that individuals with a clearer purpose in life also possessed more work engagement, mediated by autonomous motivation and hypothesis 5, which posed that harmonious passionate individuals tend to exhibit more work engagement mediated by autonomous motivation.

Furthermore, hypothesis 4, which stated that more authentic individuals are inclined to experience more work engagement and that this relationship mediated by autonomous motivation, was confirmed. There was a significant relationship found between authenticity and work engagement and this relationship was fully mediated by autonomous motivation. Lastly, hypothesis

6, stating that the more personal resources are combined, the stronger the positive relationship with work engagement, was confirmed. A regression analysis found that when all the personal resources were combined they explained greater variance than the predictors by themselves. Although no causal inferences can be drawn, combining personal resources corresponds to higher levels of work engagement and, therefore, although individual personal resources are associated with work engagement, the more an individual has higher levels of several personal resources, the more they are likely to also experience higher levels of work engagement. The results, therefore, indicate that the proposed model is relatively good at explaining the association between the personal resources and work engagement even though there is still variance that could be explained by other factors.

The explorative analysis focused on three main questions: which constructs have the highest association with work engagement, are there overarching factors that have a stronger relationship with work engagement than in current form of the constructs and do construct measure separate aspects or is there a lot of overlap between the constructs? The results indicate that harmonious passion, PsyCap and grit have a relatively strong relationship with work engagement. The strongest relationship, however, was found between autonomous motivation and work engagement, with individuals possessing more autonomous motivation also experiencing more engagement in their work. Additionally, a principal component analysis found that although there were three different constructs (overarching factors) that could be created, these components did not necessarily explain the most work engagement when considered together in this combination. Rather, the constructs account for more unique variance of work engagement when considered in their previous forms, rather than with the new components. Lastly, although a face value analysis did not indicate that there was a great amount of overlap between items from the different scales suggesting that

constructs measure separate items, other results did indicate that there was a lot of overlap in explained variance and moderately strong associations between the constructs.

Discussion

Nowadays employees are expected to be increasingly flexible, creative, innovative and engaged in their work. However, the more the job demands, the more individual resources it costs to deal with them (Bakker & Demerouti, 2008). Aside from job resources, such as feedback and developmental trainings, personal resources are enduring reserves an individual possesses that they can draw upon later when facing challenges, setbacks or new opportunities (Fredrickson, 2011). The level of work engagement is influenced not only by job resources provided through the organization but also by personal resources coming from within (Xanthopoulou et al., 2007). When individuals are engaged in their work, they are able to be more creative, perform better and experience more life satisfaction (Bakker & Demerouti, 2008). This is also desirable for organizations because having happy and engaged employees leads to less absenteeism, less turnover, lower chances of burn-out and thus, less costs (Bakker & Demerouti, 2007; Takawira et al., 2014; Salanova et al., 2005). This study demonstrated that the proposed model is plausible and found that the personal resources are all positively related to autonomous motivation and work engagement.

The purpose of this study was to investigate the relationship between various personal resources and work engagement, and to what extent this relationship was mediated by autonomous motivation. Moreover, it aimed to identify developable underlying elements which influence autonomous motivation, work engagement and work performance. Although previous studies found that the personal resources of grit, PsyCap, harmonious passion, purpose in life and

authenticity had a significant positive association with work engagement (Costantini et al., 2017; Suzuki et al., 2015; Perrewé et al., 2014; Greenway & Schreiner, 2005; Krul, 2011), for some resources there were only one or two studies that had studied and found this relationship. Furthermore, the quality of these studies and the variables often differed. For example, Greenway & Schreiner (2005) found a positive association between purpose in life and academic engagement, but not work engagement. Thus, this study aimed to extend and strengthen previous findings and to study possible overlap in the constructs.

Based on the results of this study, it can be concluded that there is a positive association between the personal resources, grit, PsyCap, harmonious passion, authenticity and purpose in life, and work engagement. These conclusions are tentative due to small sample size and other limitations of the study. This corresponds to findings from previous studies who reported a relationship between personal resources and work engagement. For instance, Suzuki et al. (2015) found that grit and work engagement were related and Constantini et al. (2017) concluded that there was a positive association between work engagement and the four constructs of PsyCap. The personal resources also correlated positively with motivation, but the strongest with autonomous motivation (the combination of intrinsic motivation and integrated regulation). Moreover, the relationship between the personal resources, PsyCap, grit, harmonious passion and purpose in life, and work engagement was also partially indirectly explained through the relationship with autonomous motivation. For example, individuals who possessed more Psychological Capital, especially if they were also more autonomously motivated in their work, reported being more engaged at work. In this study, more authentic individuals, on the other hand, exhibited more work engagement only when they also reported being more autonomously motivated. Not only did authenticity not significantly predict work engagement in the model, it also only uniquely explained

.8% of work engagement. Thus, it can be concluded that the positive association between work engagement and authenticity can be explained by the relationship between authenticity and autonomous motivation and autonomous motivation with work engagement. A similar finding was mentioned by Krul (2011) who concluded that there was an association between authenticity and work engagement but that autonomous motivation served as a mediating variable. It does not, however, correspond to the finding of Bolsenbroek (2010) who found authenticity to be a direct predictor of work engagement.

Moreover, research was lacking on the overlap between the various positive personal resources. This study found that there is considerable significant overlap between all the different resources and when these resources are all considered together they explain work engagement relatively well. Although it is unlikely that work engagement is explained entirely by the model proposed in this study, 67% of work engagement was explained when these personal resources were considered together. This is a rather large amount of work engagement explained, considering job resources are not included in the model. Previous research has shown that job resources, such as support or coaching, also explain a large amount of variance of work engagement and significantly explain work engagement (Schaufeli & Bakker, 2004; Bakker, Demerouti, & Euwema, 2005, Hakanen, Bakker & Schaufeli, 2006).

Schaufeli & Bakker (2004) found that job resources, due to their intrinsic and extrinsic motivational potential, make employees more committed to their job. The existence of environmental (job) resources may activate personal resources and this, in turn, may result in positive psychological and organizational outcomes (Xanthopoulou et al. 2007). Research by Xantholoupou and colleagues (2009) focused on work characteristics as antecedents of personal resources and work engagement. Although in this study the model proposed that personal resources

relate positively to work engagement, a previous study by Xantholoupou and colleagues (2009) argued that job resources, personal resources, and work engagement might be reciprocal. They found that both types of resources and work engagement, as well as job and personal resources, were related (Xanthopoulou et al., 2009). Thus, not only may personal resources be promoted by a manageable, comprehensive and meaningful environment (job resources), they may also determine the way individuals perceive or alter this environment and react to it. Although there has been some research on the relationship between job resources and personal resources, future studies should focus on this interaction and the effect on work engagement since this was not explored in this study.

The significant overlap between personal resources can be explained by several explanations. It is possible that they overlap due to conceptual similarities and thus they measure similar aspects. However, a face value analysis of the items did not find that there is considerable overlap between the items from the different scales. Furthermore, authenticity has been included as a possible psychological capital resource (Luthans et al., 2007b), which indicates that authenticity already has considerable overlap with the other psychological capital resources. The results also indicate that harmonious passion has considerable overlap with both the various subconstructs of work engagement as well as the autonomous forms of motivations. This finding has been previously mentioned by preceding studies. Mageau et al. (2009) mention that individuals with high levels of harmonious, and obsessive passion, perceive the activity as self-defining and individuals are more autonomously motivated when they integrate the activity into their identity (Deci & Ryan, 2000).

The overlap between the various personal resources and the fact that they share similar outcomes might also be understandable when considering the antecedent of personal resources.

Fredrickson (2001) argued with her broaden-and-build theory that positivity, experiencing positive emotions and affect (such as interest and joy), broadens people's momentary thought-action repertoires which builds their enduring personal resources. These personal resources range from intellectual and physical resources to social and psychological resources and these personal resources, gained through states of positive emotions, are conceptualized as durable (Fredrickson, 2001). Additionally, Isen (2000) found that experiencing positive affect results in individuals showing patterns of thought that are flexible, creative, integrative and open to information, which have also been found to be positive effects of possessing higher levels of the personal resources measured in this study. According to Fredrickson, individuals who experience more positive emotions are also able to bounce back from stressful experiences quickly and efficiently, in other words, be more resilient (Fredrickson, 2001). She additionally mentioned that having a purpose in life and being passionate leads to experiencing more positive emotions (Fredrickson, 2011). Thus, there might be a reciprocal relationship between building personal resources and experiencing positive emotions. It is further possible that the personal resources share overlap because they are developed and strengthened through experiencing positive emotions.

This study additionally aimed to identify developable underlying elements which influence autonomous motivation, work engagement and eventually performance. However, this did not yield any meaningful significant results. Although one of the new constructs of higher purpose did explain more work engagement when considered together compared to the original constructs, this did not explain anything new. This new component was a combination of several constructs and it should, therefore, explain more work engagement. The lack of clear underlying components found in the explorative analysis could be due to several reasons. It is possible that because all the original constructs by themselves already explain a significant amount of work engagement, that adding

these constructs together does not necessarily explain work engagement in a novel and improved way. This is because the original constructs by themselves are significantly associated with work engagement. Additionally, since autonomous motivation was a mediator for all personal resources, it is possible that motivation may be one underlying factor that explains work engagement. Moreover, similar to the broaden-and-build theory, that posits that positive emotions lead to an upward spiral (Fredrickson, 2011), it is possible that no matter what personal resource is increased, other resources are increased as well. For example, as one develops resilience, it results in increases in self-efficacy and optimism as well. Further research could focus on the effect of developing one personal resource on other personal resources.

Strengths and Limitations

Nonetheless, this study possesses several limitations that will be acknowledged, specifically with regard to sample size, statistical analysis and choice of constructs. The sample size was relatively small for the statistical analyses performed and thus, additional research should continue to research underlying constructs that lead to more work engagement. Furthermore, small sample size reduces the power of the study (Field, 2013). Due to the small sample size, this study could be considered more of a pilot study which a larger study might use as a basis. There were also much more female respondents (76%) than male respondents and thus results might not be as representative of the population as desired. However, gender was not significantly correlated to any of the variables. Additionally, to test the model, other statistical analyses could have been used, for example confirmatory factor analyses. Due to the sample size, this was not possible but future research could use other analyses to test the proposed model. Moreover, this study used mediation analysis to test whether autonomous motivation is a mediator in the relationship between personal resources and work engagement. Although mediation analyses are not recommended for cross-

sectional research design because they concern causal relationships, the modal methodology for testing mediation is cross-sectional (Maxwell & Cole, 2007). For example, in 2005 alone, more than half of published mediation studies included cross-sectional designs. Testing for mediation with cross-sectional designs is still common because there is not much known about practical consequences of applying mediation analyses to cross-sectional designs (Maxwell & Cole, 2007). Additionally, a great amount of well-known studies concerning the relationship between resources, motivation and work engagement utilize mediation analysis in their cross-sectional studies.

Furthermore, in this model several constructs comprised of various personal resources were included but there are numerous other personal resources that were not studied. These specific personal resources were chosen due to their conceptual overlap, because they are mentioned often and research has shown that they are associated with work engagement. However, other personal resources such as flow, mindset, gratefulness, creativity, emotional intelligence and self-discipline might also be related to work engagement (Luthans et al., 2007b). Moreover, the sub constructs of grit perseverance, PsyCap optimism and introjected regulation had a relatively low reliability. Several of the questionnaires were translated into Dutch and this might have reduced the reliability for several of the items. However, back-to-back translations were used and most questionnaires did have a validated translated scale. Additionally, the studies relied on self-report instruments and individuals differ in how they interpret the data. Moreover, due to the design of the study (cross-sectional design), no causal relationships could be determined. Instead the study could only prove that there was a positive association between the personal resources and work engagement.

Although there were several limitations, this research possessed numerous strengths as well. This study used research and studies from many pioneers and experts in the positive psychology field and the specific constructs. For example, research from Angela Duckworth was

used who developed the concept of grit and Luthans, Avolio and Yousseff who came up with Psychological Capital. Multiple different personal resource constructs were included and a great variety of employees were included in the study, representing the actual population. Respondents varied in age from under twenty-five to older than sixty-four. Moreover, there were eleven different nationalities included in the study and there were employees from different layers in the organisation. Additionally, both hypotheses were tested and an explorative analysis was performed using different statistical methods. This enabled both specific and broad testing and provided informative results. For example, through the finding that positive personal resources overlap with each other and that there is a positive association between personal resources and autonomous motivation.

Implications

Theoretical implications

There are several theoretical and practical implications based on the results. This study provided more insight into explaining work engagement as it showed that several different personal resources are positively associated with work engagement, both separately and when combined. This is relevant for understanding work engagement better and reinforces the findings that there might be a reciprocal relationship between personal resources and work engagement (Xanthopoulou et al. 2007). This study additionally indicated that there is considerable overlap in the conceptualization of various personal resources and emphasizes the need to continue to search for the underlying resources that make an individual cope more efficiently with challenges and opportunities in their environment.

Practical implications

The findings of this study also have several practical implications, even though it could not be determined whether personal resources influenced work engagement or vice versa. The results reinforced previous findings that autonomous motivation is essential for work engagement. This has practical implications because it further proved that autonomous motivation is not only associated with job resources, such as autonomy and competency, but also with psychological resources. Therefore, it is important for not only researchers but also organizations to focus on both the importance of job resources in an organisation and on the potential effect of developing the personal resources of employees. Another practical implication of this study is that it indicates that no matter which personal resource interventions is applied, it is often associated with higher work engagement. Therefore, it does not matter which construct is developed, whether it be by making individuals more gritty, aiding individuals in finding a purpose in life, increasing their psychological capital, being more harmonious passionate and authentic, higher levels of work engagement are reported. However, certain resources did have a stronger association with work engagement and thus, might be slightly better to develop. For example, since harmonious passion, the various constructs of psychological capital and autonomous motivation had the strongest relationship with work engagement, organisations and trainers can focus on interventions that develop these personal resources. However, more research and particularly longitudinal studies are needed to further study whether this is indeed the case, to uncover and test causal relationships and examine the effectiveness of such interventions.

Moreover, since this study showed that all personal resources are associated with higher levels of reported work engagement, it might be best to look at which constructs are the most trainable. Although all personal resources can be increased, some resources are more trait-like where others are more state-like and thus more easily enlarged. For example, a criterion for the

psychological constructs of PsyCap is that the personal resources are state-like and developable (Luthans et al., 2007b). For instance, hope has been measured both as a state and dispositional trait (Snyder et al., 1996) and optimism can also be defined as both a dispositional trait and state (Luthans et al., 2007b). Similarly, grit is defined as a personality trait but Duckworth does argue that individuals can develop grittiness. However, the four assets of grit, interest, practice, purpose and hope, are developed over the years (Duckworth, 2017). For organizations who want to make their employees more engaged, developing their grit might not be as beneficial financially than for example, focusing on increasing psychological capital since this is easier targeted and developed in one or two training sessions. Moreover, although grit passion and harmonious passion are significantly related, it is interesting that this relationship is not as strong as the relationship between other personal resources. Since harmonious passion explains work engagement better than grit it would also seem likely that focussing on increasing harmonious passion should be more effective.

Organizations can aid the development of personal resources and work engagement in numerous ways. For example, providing job resources, such as control over the way and speed tasks are performed and opportunities for professional development, makes employees feel efficacious, important to the organization and engaged in their work (Xanthopoulou et al., 2009). Vallerand and colleagues (2003) proposed that passion was generated in either harmonious or obsessive passion depending on the context. The context makes individuals either value the activity for autonomous reasons (due to the intrinsic satisfaction it provides) making them more harmonious passionate or it makes individuals value the activity for controlled purposes (serving as relevant compensatory roles). Thus, organizations may promote harmonious passion among its employees by creating environments where they feel autonomous, competent and connected

(Forest, Mageau, Sarrazin & Morin, 2011; Mageau et al., 2009). Individuals are likely to become harmoniously passionate for an activity when the activity is part of their identity (Mageau et al., 2009). However, this is not always possible in an organization or with a particular job. Certain administrative jobs, for example, require strict procedures and thus extending autonomy to employees might be difficult or employees might not be able to easily integrate their job as part of their identity. In these cases, it might be better to focus on increasing other personal resources, such as optimism or purpose in life.

Furthermore, as mentioned previously, it is possible that personal resources, such as resilience, are developed through experiencing positive emotions (Fredrickson, 2011). Since it has been proven that positive emotions lead to building more personal resources which enable an individual to cope with stressful situations efficiently, interventions can also be focused on enlarging the positive emotions experienced by employees. Examples of interventions that aid individuals in generating more positive emotions are loving-kindness meditation (LKM), gratitude and cognitive reframing (Cohn & Fredrickson, 2010). LKM is a meditative practice that enables individuals to evoke and intensify internal feelings of positive emotions (Cohn & Fredrickson, 2010; Fredrickson, 2011). This form of intervention has been tested in a large intervention study in one organization for nine weeks and it was concluded that the experience of positivity greatly increased (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). Organizations can thus promote the development of more positive emotions, and employees that are more flexible, open-minded and creative, through offering interventions aimed at increasing the experience of positive emotions, such as LKM (Fredrickson et al., 2008).

Future research

There are several possibilities for future research as mentioned previously. Future research should study the relationship between positive emotions and personal resources, aside from resilience. Additionally, research could focus on the effect increasing one personal resource has on the other personal resources. Moreover, research could focus on the trainability of all the personal resources, and to what extent this depends on individual differences, or differences in organisation or profession. Further research is also necessary to test which interventions lead to the greatest increases in work engagement among employees. Several studies have researched the effect of psychological capital interventions on work engagement (Jacobs, 2015; Constantini et al., 2017), but research on other personal resource interventions is still needed. Studies can also examine whether personal resources increase work engagement, work engagement increases personal resources and whether there is a reciprocal relationship. Since this research was cross-sectional, it could only measure association and not direction. Similarly, a larger study could include both personal and job resources in the model to test which effects autonomous motivation and work engagement the strongest.

Other future possibilities for research include cross-cultural studies and studying more constructs. Although respondents were able to partake in the study in English or Dutch, enabling respondents from differing countries, most of the respondents were Dutch (76%). Therefore, a cross-cultural analysis of differences in the effect of personal resources on work engagement was not possible. Interestingly, the English speaking respondents in this questionnaire had on average less harmonious passion compared to the Dutch speaking respondents. This could be due to several causes, such as translation or cultural differences. It might additionally be relevant to perform cross-cultural research on the difference of locus of control (LOC) in individualistic and collectivistic societies. Locus of control reflects the tendency of an individual to believe that they

either control events in life (internal) or that such control lies elsewhere, for example with powerful others (external) (Spector et al., 2001). Moreover, individuals in individualistic countries are taught to value independence and individual achievement (Guydkunst, 1998), compared to individuals in collectivistic countries being taught to value solidarity, interpersonal harmony and group achievement. In other words, control by others rather than the self (Spector et al. 2001). Both Hamid (1994) and Hui (1982) found that collectivist Asians have more external locus of control compared to western countries. Spector et al. (2001) reported that individualistic nations had employees that possessed more internal work control beliefs whereas collectivistic countries had employees that were concerned with group harmony and saw their supervisor or work group as in control. This raises questions whether a different emphasis on locus of control also influences which personal resources have the strongest relationship with higher amounts of work engagement.

As mentioned previously, there are also other personal resources that might be positively associated with work engagement. One example is mindset and learning goal orientation. It can be expected that individuals with a learning goal orientation are more autonomously motivated and thus experience higher levels of work engagement (Payne, Youngcourt, & Beaubien, 2007). The mindset theory as proposed by Dweck also mentions the importance of mindset on motivation. Individuals either have a fixed or a growth mindset and this influences their cognitions and behavior in the face of challenges (Dweck, Walton & Cohen, 2014). It is likely that individuals with a growth mindset have more autonomous motivation because they constantly want to learn and use challenges as opportunities for growth. However, although mindset can be developed, it is more of a trait than a state and thus, tougher to train (Dweck, 2017). Future research can study to what extent mindset can be considered a personal resource and whether it influences autonomous motivation, work engagement and ultimately performance.

Conclusion

In conclusion, this study has shown that positive personal resources are positively associated with autonomous motivation and work engagement in employees. Individuals that are grittier, possess more PsyCap (optimistic, resilient, self-efficacy, and hopeful individuals), are more authentic, have more purpose in life and are more harmoniously passionate, often also possess higher levels of work engagement in the workplace. Higher levels of work engagement lead to higher performance, improved job and life satisfaction and reduced chance of burnout (Christian et al., 2011; Yeh, 2013; Bakker & Demerouti, 2008; Salanova et al., 2005). It is, therefore, desirable for organizations to implement interventions to augment work engagement among its employees. Since personal resources are associated with work engagement, specific interventions cultivating personal resources could be used by organizations to develop happier and more successful employees. Further research is needed on the relationship amongst the personal resources, the direction of the effect, other possible personal resources, antecedents of personal resources and what effects cross-cultural differences might have on the relationship between personal resources and work engagement.

Definition of Terms

Work engagement: is a positive, fulfilling and work-related state of mind defined by possessing high levels of vigour (energetic, mentally alert), dedication (passion, drive) and absorption (being fully immersed in job tasks) (Schaufeli & Bakker, 2004; Bakker & Demerouti, 2008).

Job resources: is an important aspect in the Jobs Demand-Resources Model and are the resources available for employees to allow them to better cope with job demands (specific job duties) and buffer the job demands (Schaufeli & Bakker, 2004).

Personal resources: are the aspects of an individual that are linked to resilience and refer to their sense of control on their environment and circumstances (Xanthopoulou et al., 2007). Personal resources also buffer individuals from threats and adverse situations and enable an individual to grow and develop (Xanthopoulou et al., 2009).

Autonomous motivation: individuals with autonomous motivation are often intrinsically motivated and engaged in activities that are of their own choice (Deci et al., 2017). Autonomous motivation consists of the most intrinsic forms of motivation: intrinsic motivation and integrated regulation (the most autonomous form of extrinsic motivation) (Ryan & Deci, 2000).

Psychological Capital (PsyCap): is “a higher order positive construct composed of four constructs: self-efficacy (confidence), resiliency, hope and optimism” (Luthans et al., 2007b, pg. 4). They are positive, theory and research based, associated with organizational behavior, measurable, state-like and related to performance outcomes (Luthans et al., 2007b).

Grit: is defined as “perseverance and passion for long term goals” (Duckworth, 2017). It is both the perseverance of effort and consistency of interest for long-term goals. (Duckworth et al., 2007)

Harmonious Passion: is a motivational force and a strong desire to freely engage in an activity that is meaningful and aligns well with other areas of a person’s life (Vallerand et al., 2003).

Purpose in Life: can be defined as a central, self-sustaining aim in life that contributes to one's enduring sense of direction and meaning (McKnight & Kashdan, 2009). These valued, higher-order goals, enable individuals to remain behaviorally engaged in life (Scheier et al., 2006).

Authenticity: is described as “the extent to which thoughts, feelings and behaviours of a person reflect their true or core self” (Kernis and Goldman, 2006). Willemstein & Schiphorst (2010), similarly define authenticity as “the degree that one's feelings, behaviors and thoughts are congruent with the true self and compatible with one another”. In other words, how the person behaves and appears to the outside world is consistent with their true self.

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Appendix

Appendix A: Additional Table

Table 8

Assumptions for multiple regression and correlations, including kurtosis, skewness. VIF and Tolerance for all the variables

	Skewness		Kurtosis		Collinearity Statistics	
	Statistic	Std. Error	Statistic	Std. Error	Tolerance	VIF
Age	.21	.23	-1.46	.45	.87	1.15
Grit	.01	.22	.44	.44	.70	1.44
PsyCap	-.15	.22	.04	.44	.55	1.80
Harmonious Passion	-1.54	.22	3.40	.44	.65	1.53
Authenticity	-.26	.22	.06	.44	.56	1.79
Purpose in Life	-1.06	.22	2.04	.44	.79	1.27
Autonomous Motivation	-.59	.22	.68	.44	.62	1.61
Work engagement	.43	.22	.22	.44		

*Appendix B Questionnaires***PsyCap (PCQ, English version)**

Please indicate to what extent you agree with each statement.

1	2	3	4	5	6
strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree

Self-efficacy

1. I feel confident analyzing a long-term problem to find a solution.
2. I feel confident in representing my work area in meetings with management.
3. I feel confident contributing to discussions about the company's strategy.
4. I feel confident helping to set targets/goals in my work area.
5. I feel confident contacting people outside the company (e.g. suppliers, customers) to discuss problems.
6. I feel confident presenting information to a group of colleagues.

Hope

1. If I should find myself in a jam at work, i could think of many ways to get out of it.
2. At the present time, I am energetically pursuing my work goals.
3. There are lots of ways around any problem.
4. Right now I see myself as being pretty successful at work.
5. I can think of many ways to reach my current work goals.
6. At this time, I am meeting the work goals that I have set for myself.

Resilience

1. When I have a setback at work, I have trouble recovering from it, moving on. ®
2. I usually manage difficulties one way or another at work.
3. I can be "on my own", so to speak, at work if i have to.
4. I usually take stressful things at work in stride.
5. I can get through difficult times at work because I've experienced difficulty before.
6. I feel I can handle many things at a time at this job.

Optimism

1. When things are uncertain for me at work, I usually expect the best.

2. If something can go wrong for me work-wise, it will. ®
3. I always look on the bright side of things regarding my job.
4. I'm optimistic about what will happen to me in the future as it pertains to work.
5. In this job, things never work out the way I want them to. ®
6. I approach this job as if "every cloud has a silver lining"

PsyCap (PCQ, Dutch Translation)

Geef aan in welke mate u het eens bent met elke uitspraak

1	2	3	4	5	6
helemaal mee eens	mee eens	enigszins mee eens	enigszins mee oneens	oneens	helemaal niet mee eens

Zelfvertrouwen

1. Als er zich op mijn werk moeilijke problemen voordoen, weet ik die op te lossen.
2. Op mijn werk bereik ik mijn doel, ook wanneer er zich onverwachte situaties voordoen.
3. Als ik obstakels op mijn werk tegenkom, vind ik altijd wel een manier om ze te omzeilen.
4. Ook al kost het mij veel tijd en energie, ik bereik op mijn werk wat ik wil.
5. Als er iets nieuws op mij afkomt op het werk weet ik altijd wel hoe ik daar mee om moet gaan.
6. Ik heb er vertrouwen in contact te leggen met mensen buiten het bedrijf (bijv. Leveranciers, klanten) om problemen te bespreken.

Hoop

1. Ik vertrouw erop dat ik altijd een oplossing kan vinden als ik mij in een moeilijke situatie bevind in mijn werk.
2. Op dit moment streef ik mijn werkdoelen op energieke wijze na.
3. Er zijn veel manieren om problemen op te lossen.
4. Ik vind dat ik succesvol ben op mijn werk.
5. Ik kan veel manieren bedenken om mijn huidige werkdoelen te bereiken.
6. Ik bereik de doelstellingen die ik in mijn werk voor mezelf gesteld hebt

Optimisme

1. Ik ga uit van een goede afloop, ook als er dingen onzeker zijn in mijn werk.

2. Als er iets fout kan gaan in mijn werk, dan gaat het ook fout. (r)
3. Ik bekijk mijn werk altijd van de zonnige kant.
4. Ik ben optimistisch wat betreft mijn toekomst als het over mijn werk gaat.
5. Zaken in mijn werk lopen nooit zoals ik dat zou willen. (r)
6. Mijn motto in het werk is: achter de wolken schijnt de zon.

Veerkracht

1. Als ik een tegenslag heb in mijn werk, heb ik er moeite om er weer bovenop te komen en verder te gaan. (r)
2. Normaal gesproken kan ik in mijn werk goed omgaan met moeilijkheden.
3. Ik kan goed zonder hulp van anderen werken als dat nodig is.
4. Gewoonlijk neem ik stressvolle dingen in het werk er gewoon bij.
5. Moeilijke momenten in het werk kan ik best aan, want ik heb al voor hetere vuren gestaan.
6. Op mijn werk kan ik veel dingen tegelijk afhandelen.

Grit (English, short version)

Please answer to what extent you identify with these statements

1	2	3	4	5
not like me at all	not much like me	somewhat like me	mostly like me	very much like me

1. New ideas and projects sometimes distract me from previous ones ®
2. Setbacks don't discourage me. I don't give up easily.
3. I often set a goal but later choose to pursue a different one ®.
4. I am a hard worker.
5. I have difficulty maintaining my focus on projects that take more than a few months to complete. ®
6. I finish whatever I begin.
7. My interests change from year to year. ®
8. I am diligent. I never give up.

9. I have been obsessed with a certain idea or project for a short time but later lost interest.

®

10. I have overcome setbacks to conquer an important challenge.

Note. Grit perseverance: 1R, 3R, 5R, 7R, 9R Grit Passion: 2, 4, 6, 8, 10

Grit (Dutch translation, short version)

Beantwoordt alstublieft in welke mate u zich met deze uitspraken identificeert.

1	2	3	4	5
helemaal niet zoals ik ben	nauwelijks zoals ik ben	enigszins zoals ik ben	grotendeels zoals ik ben	heel erg zoals ik ben

1. Nieuwe ideeën en projecten leiden mij soms af van eerdere ideeën en projecten.
2. Tegenslagen ontmoedigen mij niet.
3. Ik stel vaak een doel, maar kies dan later toch een ander doel.
4. Ik ben een harde werker.
5. Ik heb moeite om mijn aandacht te houden bij projecten die meer dan een paar maanden duren.
6. Alles wat ik begin maak ik af.
7. Mijn interesses veranderen van jaar tot jaar.
8. Ik ben ijverig. Ik geef nooit op.
9. Ik ben korte tijd helemaal opgegaan in een bepaald idee of project, maar verloor later de interesse.
10. Ik heb tegenslagen overwonnen bij het nastreven van een belangrijke uitdaging

Aantekening. Grit doorzettingsvermogen: 1R, 3R, 5R, 7R, 9R Grit Passie: 2, 4, 6, 8, 10

Passion (PTWS, English version)

Please answer to what extent you agree with each of these statements.

1	2	3	4	5	6	7

Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
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1. This activity is in harmony with the other activities in my life.
2. I have difficulties controlling my urge to do my activity.
3. The new things that I discover with this activity allow me to appreciate it even more.
4. I have almost an obsessive feeling for this activity.
5. This activity reflects the qualities I like about myself.
6. This activity allows me to live a variety of experiences.
7. This activity is the only thing that really turns me on.
8. My activity is well integrated in my life.
9. If I could, I would only do my activity
10. My activity is in harmony with other things that are part of me.
11. This activity is so exciting that I sometimes lose control over it.
12. I have the impression that my activity controls me.
13. I spend a lot of time doing my work.
14. I like my work.
15. My work is important for me.
16. My work is a passion for me.

Note. Harmonious passion: 1, 3, 5, 6, 8, 10; Obsessive passion: 2, 4, 7, 9, 11, 12

Passioncriteria 13, 14, 15, 16

Passie (PTWS, Dutch translation)

Onderstaande uitspraken gaan over uw werk. Geeft u achter iedere uitspraak aan in hoeverre deze op u van toepassing is door steeds het cijfer te omcirkelen van het best passende antwoord.

1	2	3	4	5	6	7
Helemaal mee eens	Mee eens	Enigszins mee eens	Niet eens, niet oneens	Enigszins oneens	Oneens	Helemaal niet mee eens

- 1 Mijn werk is in harmonie met andere activiteiten in mijn leven.
- 2 De drang die ik heb om bezig te zijn met mijn werk, kan ik moeilijk beheersen.
- 3 Door de nieuwe dingen die ik ontdek binnen mijn werk, waardeer ik mijn werk nog meer.
- 4 Ik heb bijna een obsessief gevoel met betrekking tot mijn werk.
- 5 Mijn werk laat kwaliteiten van mij zien die ik zelf waardeer.
- 6 Door mijn werk doe ik verschillende ervaringen op.
- 7 Mijn werk is het enige waar ik echt enthousiast van word.
- 8 Mijn werk past goed in mijn leven.
- 9 Als het kon, zou ik alleen maar met mijn werk bezig zijn.
- 10 Mijn werk kan ik goed combineren met andere aspecten die deel uitmaken van mij.
- 11 Mijn werk neemt me zo in beslag, dat ik er soms de controle over verlies.
- 12 Ik heb de indruk dat mijn werk mij beheerst.
- 13 Ik besteed veel tijd aan mijn werk.
- 14 Ik houd van mijn werk.
- 15 Mijn werk is belangrijk voor mij.
- 16 Mijn werk is een passie van mij.

Aantekening. Harmonieuze passie: 1, 3, 5, 6, 8, 10, Obsessieve passie: 2, 4, 7, 9, 11, 12, Passiecriteria: 13, 14, 15, 16

Purpose in Life (LET, English version)

Please answer the following questions about yourself by indicating to what extent you agree with each statement.

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

1. There is not enough purpose in my life. ®
2. To me, the things I do are all worthwhile.
3. Most of what I do seems trivial and unimportant to me. ®
4. I value my activities a lot.
5. I don't care very much about the things I do. ®

6. I have lots of reasons for living.

Purpose of life (LET, Dutch translation)

Geef aan in welke mate u het eens bent met de volgende stellingen. Vink slechts één keuze aan per uitspraak.

1	2	3	4	5
Helemaal mee oneens	Mee oneens	Niet mee eens, niet mee oneens	Mee eens	Helemaal mee eens

1. Er is niet voldoende zingeving in mijn leven. ®
2. Voor mij zijn alle dingen die ik doe de moeite waard.
3. De meeste dingen die ik doe komen me triviaal en onbelangrijk voor. ®
4. Ik waardeer mijn bezigheden zeer.
5. Ik geef niet veel om de dingen die ik doe. ®
6. Ik heb veel om voor te leven.

Authenticity (AI-3, shortened and English version)

Please answer to what extent you agree with each of these statements.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. For better or for worse I am aware of who I truly am.
2. I have a very good understanding of why I do the things I do.
3. I actively attempt to understand myself as best as possible.
4. I frequently am not in touch with what's important to me. ®
5. I am very uncomfortable objectively considering my limitations and shortcomings. ®
6. I prefer to ignore my darkest thoughts and feelings. ®
7. I try to block out any unpleasant feelings I might have about myself. ®
8. I find it difficult to embrace and feel good about the things I have accomplished. ®
9. I've often done things that I don't want to do merely not to disappoint people. ®

10. I find that my behavior typically expresses my values.
11. I rarely if ever, put on a “false face” for others to see.
12. I am willing to endure negative consequences by expressing my true beliefs about things.
13. People close to me would be shocked or surprised if they discovered what I keep inside me. ®
14. If asked, people I am close to can accurately describe what kind of person I am.
15. I want close others to understand the real me rather than just my public persona or “image.”
16. My openness and honesty in close relationships are extremely important to me.

Note. Awareness: 1, 2, 3, 4R, Unbiased Processing: 5R, 6R, 7R, 8R, Behavioral: 9R, 10, 11, 12, Relational Orientation: 13R, 14, 15, 16

Authenticity (AI-3, shortened and translated into Dutch)

De volgende 16 uitspraken gaan over hoe u uzelf ziet. Geef weer door middel van een cijfer (1 t/m 5) aan welk antwoord het beste uw mening weergeeft. Vink slechts één keuze aan per uitspraak.

1	2	3	4	5
Helemaal mee oneens	Mee oneens	Niet mee eens, niet mee oneens	Mee eens	Helemaal mee eens

1. Of het nu ten gunste van mezelf is of niet, ik ben me altijd bewust wie ik werkelijk ben.
2. Ik begrijp doorgaans heel goed waarom ik de dingen doe die ik doe.
3. Ik doe er mijn best voor mezelf zo goed mogelijk te begrijpen.
4. Ik sta vaak niet in contact met wat belangrijk voor mij is. (R)
5. Ik voel me er heel onprettig bij als ik objectief mijn limieten en tekortkomingen bekijk. (R)
6. Ik negeer liever mijn donkerste gedachten en gevoelens. (R)
7. Ik probeer alle onplezierige gevoelens die ik over mezelf heb te blokkeren. (R)
8. Ik heb er moeite mee om de dingen die ik bereikt heb te omarmen en me er goed over te voelen. (R)
9. Ik doe dingen die ik eigenlijk niet wil doen, alleen om anderen niet teleur te stellen. (R)
10. Ik handel in overeenstemming met mijn eigen waarden.

11. Ik zal me zelden of nooit anders voordoen dan ik ben tegenover anderen.
12. Ik ben bereid de negatieve consequenties te aanvaarden vanwege het uitdragen van mijn werkelijke overtuigingen over dingen.
13. Als de mensen die dichtbij me staan zouden ontdekken wat ik nu voor mezelf houd, zouden ze geschokt of verrast zijn. (R)
14. Als het ze gevraagd zou worden, zouden mensen die dichtbij me staan een goede beschrijving kunnen geven van de persoon die ik ben.
15. Ik wil dat anderen die dichtbij me staan de “echte ik” kennen in plaats van mijn publiek persoon of “image”.
16. Ik vind openheid en eerlijkheid heel erg belangrijk in hechte relaties.

Aantekening. Bewustzijn: 1, 2, 3, 4R, Onpartijdige Behandeling: 5R, 6R, 7R, 8R, Gedrag: 9R, 10, 11, 12, Relationele Oriëntatie: 13R, 14, 15, 16

Work motivation (WEIMS, English version)

Using the scale below, please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work.

1	2	3	4	5	6	7
Not at all	A little	A moderate amount	A lot	A great deal	Most of the time	Completely

1. Because this is the type of work I chose to do to attain a certain lifestyle.
2. For the income it provides me.
3. I ask myself this question, I don't seem to be able to manage the important tasks related to this work.
4. Because I derive much pleasure from learning new things.
5. Because it has become a fundamental part of who I am.
6. Because I want to succeed at this job, if not I would be very ashamed of myself.
7. Because I chose this type of work to attain my career goals.
8. For the satisfaction I experience from taking on interesting challenges
9. Because it allows me to earn money.

10. Because it is part of the way in which I have chosen to live my life.
11. Because I want to be very good at this work, otherwise I would be very disappointed.
12. I don't know why, we are provided with unrealistic working conditions.
13. Because I want to be a "winner" in life.
14. Because it is the type of work I have chosen to attain certain important objectives.
15. For the satisfaction I experience when I am successful at doing difficult tasks.
16. Because this type of work provides me with security.
17. I don't know, too much is expected of us.
18. Because this job is a part of my life.

Note. Intrinsic motivation 4,8,15; integrated regulation 5,10,18; identified regulation 1,7,14; introjected regulation 6,11,13; external regulation 2,9,16; amotivation 3,12,17.

Work motivation (WEIMS, Dutch version)

In welke mate komen de onderstaande stellingen overeen met de redenen dat u werkt?

1	2	3	4	5	6	7
Helemaal niet	Niet echt	Een beetje	Matig	Sterk	Heel sterk	Volledig

1. Omdat dit type werk overeenkomt met hoe ik in het leven wil staan.
2. Vanwege het salaris dat ik ervoor krijg.
3. Dat vraag ik mezelf ook af, het lukt me niet om mijn taken op mijn werk goed uit te voeren.
4. Omdat ik veel plezier haal uit het leren van nieuwe dingen.
5. Omdat het werk wat ik doe een belangrijk onderdeel is geworden van wie ik ben als persoon.
6. Omdat ik het goed wil doen in deze baan, anders zou ik me erg voor mezelf schamen.
7. Ik heb dit type werk gekozen om de doelen die ik heb in mijn carrière te behalen.
8. Vanwege de voldoening die ik krijg wanneer ik interessante uitdagingen aanga op mijn werk.
9. Omdat het ervoor zorgt dat ik geld verdien.
10. Omdat het een onderdeel is van de manier waarop in mijn leven invul.
11. Omdat ik heel goed wil zijn in dit werk, anders zou ik teleurgesteld zijn.
12. Ik weet niet goed waarom ik hier werk, aangezien onze werkomstandigheden niet werkbaar zijn.

13. Omdat ik succesvol wil zijn in het leven.
14. Omdat met dit werk ik bepaalde doelen kan halen die ik voor mezelf gesteld heb.
15. Vanwege de voldoening die ik voel als het me lukt om een moeilijke taak goed uit te voeren.
16. Omdat dit werk me zekerheid geeft.
17. Ik weet niet goed waarom ik hier werk, er wordt te veel van ons verwacht hier.
18. Omdat deze baan onderdeel is van mijn leven.

Aantekening: Intrinsieke motivatie 4, 8, 15; integrated regulation 5, 10, 18; identified regulation 1, 7, 14; introjected regulation 6, 11, 13; external regulation 2, 9, 16; amotivation 3, 12, 17

Work engagement (UWES, English version)

The following statements concern how you experience your work and how you feel about it.

Please indicate how often all of these statements are applicable to you.

0	1	2	3	4	5	6
never	Almost never (1x p/y or less)	Rarely (1x p/m or less)	Sometimes (several times p/m)	Often (1x p/w)	Very often (several times p/w)	Always (every day)

1. When I get up in the morning, I feel like going to work.
2. To me, my job is challenging.
3. When I am working, I forget everything else around me
4. At my work, I feel bursting with energy.
5. My job inspires me.
6. Time flies when I am working.
7. At my work I always persevere, even when things do not go well.
8. I am enthusiastic about my job.
9. I get carried away when I am working.
10. I can continue working for very long periods at a time
11. I am proud on the work that I do.
12. It is difficult to detach myself from my job.
13. At my job, I am very resilient, mentally.
14. I find the work that I do full of meaning and purpose.

15. I am immersed in my work.
 16. At my job I feel strong and vigorous.
 17. I feel happy when I am working intensely.

Note. Vigor: 1, 4, 7, 10, 13, 16, Dedication: 2, 5, 8, 11, 14. Absorption: 3, 6, 9, 12, 15, 17

Work engagement (UBES, Dutch translation)

De volgende uitspraken hebben betrekking op hoe u uw werk beleeft en hoe u zich daarbij voelt. Wilt u aangeven hoe vaak iedere uitspraak op u van toepassing is door steeds het best passende cijfer aan te vinken? Vink slechts één getal aan per uitspraak.

0	1	2	3	4	5	6
Nooit	sporadisch (1 x p/j of minder)	af en toe (1 x p/m of minder)	regelmatig (paar keer p/m)	dikwijls (1 x p/w)	zeer dikwijls (paar keer p/w)	altijd (dagelijks)

1. Als ik 's morgens opsta, heb ik zin om aan het werk te gaan.
2. Mijn werk is voor mij een uitdaging.
3. Als ik werk, vergeet ik alle dingen om me heen.
4. Op mijn werk bruis ik van de energie.
5. Mijn werk inspireert mij.
6. Als ik aan het werk ben, dan vliegt de tijd voorbij.
7. Op mijn werk houd ik altijd vol, ook als het niet goed gaat.
8. Ik ben enthousiast over mijn baan.
9. Ik ga helemaal op in mijn werk.
10. Als ik aan het werk ben, dan kan ik heel lang doorgaan.
11. Ik ben trots op het werk dat ik doe.
12. Het is moeilijk om mezelf los te maken van mijn baan.
13. Op mijn werk ben ik erg veerkrachtig, mentaal.
14. Ik vind het werk dat ik doe nuttig en zinvol.
15. Ik ben ondergedompeld in mijn werk.
16. Als ik werk, voel ik me fit en sterk.

17. Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig.

Aantekening. Vitaliteit: 1, 4, 7, 10, 13, 16, Toewijding: 2, 5, 8, 11, 14. Absorptie: 3, 6, 9, 12, 15, 17.

8.3 Appendix C Confidentiality Agreement and Debriefing

In English prior to the start of the questionnaire:

Welcome to the questionnaire that looks at how you perceive and experience your work. It is important to note that there are no right or wrong answers, we would only like to hear to what extent you identify with the propositions or to what extent you agree with it. Make sure to note the answering scale as it changes throughout the survey.

Your data will be treated completely anonymously and confidentially. Please provide answers to all questions. You can also end your participation at any time without providing a reason. After an interruption, you can continue with the questionnaire.

If you have any questions about this master thesis project, you can email it to anna.maasland@gmail.com. In case of complaints or questions about the research you can also contact the head researcher, Dr. Herman Steensma via Steensma@fsw.leidenuniv.nl. You may now start with the questionnaire, which will take approximately 15 minutes.

I have read the above information and am prepared to participate in this research. My answers will be processed anonymously. I have had the opportunity to ask questions. I know that my participation in the research is voluntary and that I can choose not to participate or stop my participation at any time without providing a reason. (Click here to continue).

In Dutch prior to the questionnaire:

Welkom bij de vragenlijst over hoe u naar uw werk kijkt en het ervaart. Er zijn geen goede of foute antwoorden, wij horen graag tot in hoeverre u zich met de stellingen identificeert of tot in hoeverre u het er mee eens bent. Let goed op, de antwoordschaal verandert meerdere malen in de vragenlijst.

Uw gegevens worden volledig anoniem en vertrouwelijk behandeld. Geef alstublieft antwoord op alle vragen. U kunt ook op elk gewenst moment uw deelname onderbreken, zonder daar een reden voor te geven. Na onderbreking kunt u ook op een ander moment verder gaan met de vragenlijst.

Mocht u vragen hebben over dit master afstudeeronderzoek, dan kunt u deze per email sturen naar anna.maasland@gmail.com. Uw email-adres kan niet aan uw antwoorden worden verbonden. In geval van klachten of vragen over het onderzoek kunt u ook contact opnemen met de hoofdonderzoeker, dr. Herman Steensma via Steensma@fsw.leidenuniv.nl. U kunt nu beginnen met de vragenlijst, deze zal ongeveer 15 minuten duren.

Ik heb bovenstaande informatie gelezen en ben bereid aan dit onderzoek mee te doen. Mijn antwoorden worden anoniem verwerkt. Ik heb de mogelijkheid gehad om vragen te stellen. Ik weet dat mijn deelname aan het onderzoek vrijwillig is en dat ik elk moment kan kiezen om niet deel te nemen of mijn deelname te stoppen, zonder daarvoor een reden te geven. (Klik hier om verder te gaan).

The debriefing in English:

This is the end of the questionnaire about how you perceive and experience work, thank you again for your participation.

What we expect to find in this research is that the more personal resources someone possesses, such as self-resilience, passion, authenticity and optimism, the higher the intrinsic motivation for his / her work will be, and the higher the work engagement (the extent to which one enjoys work and finds fulfillment in it). Higher work engagement leads to less burnout, higher performance and well-being. We also wanted to see which aspects influence work engagement the most, in order to make interventions more effective by focusing on the elements that have the greatest influence.

If you still have questions after completing this questionnaire, you can contact us by sending an email to anna.maasland@gmail.com. Do you have any complaints or questions about this research, then you can also contact the head researcher, Dr. Herman Steensma via steensma@fsw.leidenuniv.nl.

If you would like to receive a copy of the final thesis on the relationship between positive personal resources and work engagement, then please fill in your e-mail address below.

The Debriefing in Dutch :

Dit is het einde van de vragenlijst over hoe u naar uw werk kijkt en het ervaart, nogmaals hartelijk dank voor uw deelname. Wat er uit het onderzoek verwacht wordt is dat hoe meer persoonlijke middelen en hulpbronnen iemand bezit, zoals zelfredzaamheid, passie, authenticiteit en optimisme, hoe hoger de intrinsieke motivatie voor zijn/haar werk zal zijn, en hoe hoger de werkbevoegenheid is (de mate waarin men geniet van het werk). Hogere werkbevoegenheid leidt tot lagere kans op burn-out, hogere resultaten en welzijn. Ook willen wij kijken welke aspecten de bevoegenheid het meeste beïnvloeden, zodat deze aspecten mogelijk getraind kunnen worden.

Heeft u na het invullen van deze vragenlijst nog vragen, dan kunt u contact opnemen door een email te sturen naar anna.maasland@gmail.com. Heeft u klachten of vragen over het onderzoek dan kunt u ook contact opnemen met de hoofdonderzoeker, dr. Herman Steensma via steensma@fsw.leidenuniv.nl

Wilt u graag een kopie ontvangen van de uiteindelijke thesis over de relatie tussen positieve persoonlijke middelen en eigenschappen en werkbevoegenheid, vul uw e-mail adres dan hieronder in.