

## Running head: WHY RESILIENT WORKERS PERFORM BETTER

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### Why Resilient Workers Perform Better: The Roles of Job Satisfaction and Work Engagement

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## Abstract

Previous studies have confirmed correlations between resilience and job performance, but surprisingly little is known about the nature of this relationship. This study sheds light on the roles of two important positive dimensions of work-related well-being: job satisfaction and work engagement. Data were collected from 360 Czech workers in helping professions using an online survey. Levels of resilience and perceived job performance were indeed positively associated. Using Structural Equation Modeling, the best-fitting model showed partial mediation by work engagement; conversely, job satisfaction was not found to be a mediator of this relationship. Additionally, the finding that job performance is related more strongly to work engagement than to job satisfaction contributes to the debate about the concurrent validity of job attitudes.

*Keywords:* resilience, job performance, job satisfaction, work engagement

### Why Resilient Workers Perform Better: The Roles of Job Satisfaction and Work Engagement

Stress in the workplace negatively influences both individual workers and entire organizations. According to the American Psychology Association (2009), more than half of employees report some amount of lost productivity due to stress while at work; interestingly, this problem is augmented among young workers – roughly six in 10 Millennials and Gen Xers report some amount of lost productivity. Therefore, it is desirable to reduce the causes of stress, but it is equally important to enable workers to cope with the degree of stress that is unavoidable. Enhanced resilience seems to be one of the options.

The concept of resilience was discussed many years ago as a personality trait related to adaptability and coping (Block, 1961). The current conceptualization of resilience as a state emerged in the 1970s from research on the resilience of children of schizophrenic mothers (Garmezy, 1971), and a number of later studies confirmed that resilience is not a rare phenomenon (Luthans, Vogelgesang, & Lester, 2006). Since then, research on this topic has expanded greatly, and resilience has been investigated in many other contexts, such as healthcare (e.g., McAllister & McKinnon, 2009), education (e.g., Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013), social policy (e.g., Luthar & Cicchetti, 2000), including work environments (see below).

When applied to the workplace, resilience is defined as the “positive psychological capacity to rebound, to ‘bounce back’ from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility” (Luthans, 2002, p. 702). Over a decade of research attests to the importance of resilience in the workplace for employees’ well-being and performance. Numerous studies have confirmed a weak to moderate relationship between resilience and job performance (Krush, Agnihotri, Trainor, & Krishnakumar, 2013; Luthans, Avolio, Walumbwa, & Li, 2005; Luthans, Avolio, Avey, & Norman 2007). Moreover, a recent systematic review by Robertson, Cooper, Sarkar, and

Curran (2015) of studies monitoring the effects of resilience training in the workplace reveals that resilience training can improve personal resilience and is a useful means of developing not only mental health and subjective well-being in employees but also improved performance.

These first attempts illustrated that resilience training in the workplace can enable people to cope better with stress and to be more satisfied and productive; consequently, some companies provide resilience training to attain these results. However, an exploration of the mechanism of the relationship between resilience and job performance is still needed to better estimate which workers would benefit from resilience training and under what conditions. Our aim therefore is to extend the current research by examining the way through which resilience increases job performance, namely the possible mediating effects of two important positive dimensions of work-related well-being – job satisfaction and work engagement – on this relationship. Whereas job satisfaction is focused on the affective aspects of work, “an evaluative description of job conditions or characteristics” (Christian et al., 2011, p. 97), work engagement is focused on physical, emotional, and cognitive aspects of involvement with the job, “a description of an individual’s experiences resulting from work” (ibid., p. 97).

Given the similarity between job engagement and job satisfaction and repeated questioning of the uniqueness of the construct of work engagement (Newman & Harrison, 2008), the aim of this study is to assess the possible mediating effects of satisfaction and engagement simultaneously. We keep both variables in one model and identify the mediating effect of each variable in the context of the other one. The next paragraphs describe why satisfaction and engagement are expected to mediate the relationship between resilience and job performance.

### **The Mediating Role of Job Satisfaction**

Job satisfaction is a “pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating one’s job values” (Locke, 1969, p. 317). This attitude toward a job contributes to the health of workers (Faragher, Cass, & Cooper, 2005) and to their general life satisfaction (Judge & Watanabe, 1993). Satisfied workers maintain better relations with colleagues (Swider, Boswell, & Zimmerman, 2011), tend to be absent less often (Steel, Rentsch, & Hendrix, 2002) and are less likely to quit than their less satisfied peers (Swider et al., 2011), and have a greater commitment to their organization (Yoon & Thye, 2002); finally, yet importantly, job satisfaction contributes to maintaining high work performance (Judge, Thoresen, Bono, & Patton, 2001).

According to previous evidence, resilience attenuates the debilitating effects of stress on job satisfaction (Krush et al., 2013). Resilient people can effectively regulate their emotions when faced with adversity (Bonanno, Papa, & O’Neill, 2001), or, even though resilient people experience negative emotions at levels comparable to those of their less resilient peers when faced with a stressor, they also experience more positive emotions (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009). We suppose that resilient workers can effectively cope with stress and experience more positive emotions and thus are very likely to be more satisfied with their job than their less resilient peers. Weak to moderate positive relationships between resilience and job satisfaction have been repeatedly reported (Hudgins, 2016; Larson & Luthans, 2006; Matos, Neushotz, Griffin, & Fitzpatrick, 2010), and a longitudinal study by Lioussis, Shochet, Millear, and Biggs(2009) reported that an intervention promoting resilience in the workplace led to a significant increase of job satisfaction five months after completion of the program. In turn, job satisfaction helps to achieve high job performance (Judge et al., 2001). People who are satisfied with their job and feel good about it are supposed to be able to act more effectively and to achieve higher performance than those who are not satisfied with their job and who invest energy in coping with negative

emotions. According to broaden-and-build theory, experiencing positive emotions causes a broadening of perspectives and a realistic perception of both the positive and the negative aspects of situations (Fredrickson, 2004). This makes satisfied people more flexible in response to changing demands and more open to new experiences (Tugade & Fredrickson, 2004); hence, they are better able to achieve high performance.

We therefore hypothesize that if resilience helps people cope with adversity, maintain effective interaction and experience positive emotions, it should increase job satisfaction, which in turn should contribute to job performance.

We are aware of extensive disputes over the role of attitudes in determining and predicting behaviors. Based on the theories of Fishbein and Ajzen (e.g., Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1974), who developed the compatibility principle for attitudes and their relationships to behavior, attitude-behavior connections are the strongest when the attitude is matched in specificity or generality to the behavior. Harrison, Newman, and Roth (2006) noted that job satisfaction is an attitude that connotes a broad target. Such an attitude should kindle a general, undifferentiated force to engage in (positive or negative) behaviors that manifest the attitude. We therefore suppose that if we focus on overall job satisfaction and its relationship to overall job performance, we will observe a link between the attitude and the behavior. Similarly, Judge and colleagues (2001) concluded that overall satisfaction had a much stronger meta-analytic relationship with overall job performance ( $p = .30$ ) than was previously believed.

Our reasoning is consistent with the results of previous research. Former studies have provided evidence for a weak to moderate positive relationship between resilience and job performance (Krush et al., 2013; Luthans et al., 2005; Luthans et al., 2007), a weak to moderate positive relationship between resilience and job satisfaction (Alessandri, Borgogni, Consiglio, & Mitidieri, 2015; Hudgins, 2016; Krush et al., 2013; Larson & Luthans, 2006) and

a moderate positive correlation between job satisfaction and job performance (Davar & RanjuBala, 2012; Judge et al., 2001; Riketta, 2008).

*H1: Job satisfaction mediates the relationship between resilience and job performance.*

### **The Mediating Role of Work Engagement**

Work engagement is “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (Schaufeli, Salanova, Gonzalez-Romá, & Bakker, 2002, p. 74). We refer to engagement as a state of mind that is relatively enduring but may fluctuate over time (Schaufeli et al., 2002). It has a beneficial effect on both employees and organizations, as it is positively related to employees’ job satisfaction (Saks, 2006; Schaufeli, 2011), health (Schaufeli, 2011), organizational commitment (Saks, 2006; Simpson, 2009), and both task and contextual performance (Bakker & Bal, 2010; Bakker & Demerouti, 2009; Bakker & Xantopoulou, 2009; Balducci, Fraccaroli, & Schaufeli, 2010; Christian, Garza & Slaughter, 2011; Gorgievski, Bakker, & Schaufeli, 2010) and negatively related to employee turnover (Saks, 2006; Simpson, 2009).

Resilience is one of the antecedents of work engagement. According to Kahn (1990), three psychological conditions are required for engagement: meaningfulness, safety and availability. Kahn’s model of engagement was later empirically verified by May, Gilson, and Harter (2004), whose results supported the positive relations between meaningfulness, safety and availability and work engagement. We suppose that resilience helps to attain all three conditions. First, it has been shown that resilient people have developed personal resources and positive self-evaluations consisting of self-esteem, generalized efficacy, an internal locus of control, and emotional stability (Fonagy, Steele, Steele, Higgitt, & Target, 1994; Haglund, Nestadt, Cooper, Southwick, & Charney, 2007), and the more positive self-regard a person has, the more the goal of self-concordance is achieved (Judge et al., 2005). Therefore, resilient people are expected to perceive their goals as meaningful. Second, resilient individuals assess

potential stressors as less threatening than their less resilient peers (Sweetman & Luthans, 2010); thus, we expect them to feel that it is safe to engage. Third, they have a sense of their ability to control and impact their environment successfully (Fonagy et al., 1994); hence, they are supposed to sense the availability of engagement.

The relationship between resilience and work engagement has also been researched in the context of psychological capital (a core factor consisting of hope, efficacy, optimism, and resilience), and numerous studies have provided evidence that work engagement is an outcome of these psychological resources (e.g., Avey, Wernsing, & Luthans, 2008; Paek, Schuckert, Kim, & Lee, 2015; Sweetman & Luthans, 2010). Subsequently, work engagement helps people to achieve high job performance.

As a motivational concept, engagement should be related to the persistence and intensity with which individuals pursue their task performance (Rich, Lepine, & Crawford 2010). Albrecht (2010) affirmed that engaged employees are active agents, feel competent and set high goals. In addition, they have values that match those of the organization, they are intrinsically motivated and work is fun for them (Schaufeli & Bakker, 2004). Consequently, they experience positive emotions, which help them to concentrate on their work and achieve high individual performance. Additionally, they are friendly, willing to help others and positively influence their colleagues with their work engagement (Bakker & Demerouti, 2008), thus increasing the overall performance of those who work in teams. Finally, their high performance contributes to their good health and its associated work ability (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001).

Hence, we assume that resilience increases job engagement, which in turn contributes to job performance. Our reasoning is consistent with the results of previous research. Former studies have provided evidence for a moderate to strong relationship between resilience and work engagement (Mache et al., 2014; Othman, Ghazali, & Ahmad, 2013; Simons &



Buitendach, 2013) and a moderate positive relationship between engagement and both contextual and task job performance (Bakker & Bal, 2010; Bakker & Xantopoulu, 2009; Gorgievski et al., 2010).

*H2: Job engagement mediates the relationship between resilience and job performance.*

## **Method**

### **Participants and Design**

Three hundred sixty Czech workers in helping professions filled out an online survey. Participants averaged 35.74 years of age ( $SD = 10.73$ ) with 8.5 years of work experience ( $SD = 9.83$ ). The majority were women (86.67 %), in accordance with the real quotient of women in the helping professions. Both health care professionals (94 nurses, 35 physicians, 18 rescuers, and 9 physical therapists) and workers in social and pedagogical areas (128 teachers and educators, 31 psychologists, 21 social workers, 14 special instructors, and 10 personal assistants) participated in our study.

### **Procedure**

As a requirement of our study, participants had to have worked at their current position for at least 3 months and for a minimum of 20 hours per week. We did not consider those who were new at their jobs or worked less than half of the typical weekly working hours in the Czech Republic because we wanted the data to be unaffected by such cases. To obtain a large field sample of helping professionals for both high external validity and statistical power, we recruited participants via websites that connect various groups of helping professionals. Participants were guaranteed that their data would remain confidential at all times during and after the project. The study was conducted in accordance with the APA's ethical principles and code of conduct (2010).

### **Measures**

The survey included measures of resilience, job satisfaction, job engagement, and perceived job performance as well as several demographic variables as control variables.

**Resilience.** For the assessment of resilience, we used the 10-item version of the Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007). This short version had demonstrated a high construct validity and a high correlation with the original 25-item Connor-Davidson Resilience Scale (ibid.). The one-factor model showed good fit ( $\chi^2(35) = 93.77, p < .001; RMSEA = .056, 90\% CI = .042 - .069, CFI = 0.23; SRMR = .034; CFI = .96$ ), and all the items had salient loadings (.39 - .74) (ibid.). We translated the items from English to Czech and conducted a pilot study to evaluate the appropriateness of the Czech version of the questionnaire. There were 5 participants aged 25-55 years who filled in the form and then answered our cognitive interview. Consequently we have modified the wording of some items in order to make them more understandable to general population and we estimated the time needed to fill in the survey. Participants rated each item on a 5-point Likert scale (1 = never, 2 = exceptionally, 3 = sometimes, 4 = often, 5 = nearly always). Later, an analysis of internal consistency confirmed the satisfactory reliability of the Czech version of the Connor-Davidson Resilience Scale ( $\alpha = 0.75$ ).

**Job Satisfaction.** The short version of the Job Diagnostic Survey, Scale of General Satisfaction (Hackman & Oldham, 1974) was used for the assessment of job satisfaction. It consists of 3 self-evaluating statements rated on a 7-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither, 5 = somewhat agree, 6 = agree, 7 = strongly agree). Prior analysis of the Czech version of this method (Vaculik, Vytaskova, Prochazka, & Zalis, 2016) documented its high internal consistency ( $\alpha=0.95$ ) as well as strong factor loadings (0.81; -0.74; 0.84). Our analysis of internal consistency confirmed the satisfactory reliability of the Czech version ( $\alpha=0.84$ ).

**Work Engagement.** For the assessment of work engagement, we adapted the 9-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002). It consists of 9 statements describing how people can feel in the context of work, and respondents rate how often they experience these feelings on a 7-point Likert scale (1 = never, 2 = hardly ever, 3 = occasionally, 4 = sometimes, 5 = often, 6 = very often, 7 = always). The reliability and stability of this method were verified by Schaufeli Bakker, and Salanova (2006). The scale was made as a 3-dimensional measure, but recently, deBruin and Henn (2013) provided evidence supporting the convergent validity of the three subscales, thus pointing toward the presence of a general factor. The findings demonstrate that – despite the multidimensionality – the interpretation of a total score is justified and preferable (ibid.). We translated the items from English to Czech and conducted a pilot study to evaluate the appropriateness of the Czech version of the questionnaire. An independent analysis of the internal consistency confirmed the strong reliability of the Czech version ( $\alpha=0.92$ ).

**Job performance.** We are convinced that the behavior and outcomes of helping professionals are generally not countable; hence, we find an objective measurement of performance in the helping professions inappropriate. Consequently, we assessed job performance by self-evaluation. We used a short form of the Perceived Job Performance Inventory (Vaculik, Vytaskova, Prochazka, & Zalis, 2016) consisting of 6 self-evaluating statements that are rated on a 5-point Likert scale (1 = strongly disagree, 2 = somewhat disagree, 4 = neither, 5 = somewhat agree, 6 = strongly agree). The scale was made as a unidimensional 1-factor measure. Prior analysis of this method has documented its high internal consistency ( $\alpha=0.83$ ). Our analysis of the internal consistency confirmed its satisfactory reliability ( $\alpha=0.77$ ).

## Results

### Preliminary analyses

The assumptions for our analysis were that the resilience and performance scales are unidimensional and that it is possible to use the UWES to measure the single factor of engagement. We needed to find support for these assumptions to be able to form parcels for the abovementioned variables. The confirmatory factor analyses using Mplus 6.1 (Muthén & Muthén, 1998-2011) of one-factor models supported the assumptions that the measures of resilience ( $\chi^2(35) = 58.842$ , CFI = .957, RMSEA = .043) and performance ( $\chi^2(9) = 40.329$ , CFI = .942, RMSEA = .098) were unidimensional. The CFI close to .95 (Hu & Bentler, 1999; or over .93 according to Byrne, 1994) indicated good fit of the models with one factor. The higher RMSEA of the performance questionnaire should be interpreted carefully because of the lower test power of this indicator in analyses with small df and small sample size (Kenny, Kaniskan, & McCoach, 2015). The fit of the performance questionnaire is decreased mainly because of the correlated residuals of two reverse items (items 3 and 6), not because of the presence of a sub-factor of performance in the questionnaire.

The measure of engagement consisted of three subscales. However, each subscale measured engagement as a higher-order construct (CFA with 3 factors corresponding to three subscales of engagement and 1 higher-order factor of engagement:  $\chi^2(24) = 190.486$ , CFI = .956, RMSEA = .099, std. factor loadings of subscales on engagement  $\geq .883$ ). The CFA indicated good fit of the model (Hu & Bentler, 1999); the RMSEA should be interpreted carefully, as mentioned above (Kenny et al., 2015). The fit of the model was decreased mainly by a small quantity of correlated residuals of items across the subscales and the tendency of absorption items to load slightly on the other factors. These results supported our intention to use the UWES as a measurement of engagement as a latent variable (compare, e.g., with de Bruin & Henn, 2013). Moreover, if we considered the UWES unidimensional in further analysis, all 9 items loaded strongly on a single factor of engagement (the lowest factor loading was .60).

**Model testing**

To test the hypotheses, we estimated the structural equation model (SEM) using Mplus 6.1 (Muthén & Muthén, 1998-2011). We modeled the relationship between employees' resilience and performance as mediated by engagement and job satisfaction. Before conducting the SEM analysis, we formed parcels with an equal number of items in every parcel (in line with recommendations by Little, Cunningham, Shahar, & Widaman, 2002) to reduce the number of variables in the model and to increase the reliability of the indicators (Graham, Tatterson, & Widaman, 2000). We created 5 parcels for resilience (items 1+2, 3+4, 5+6, 7+8 and 9+10) and 3 parcels for performance (items 1+2, 3+4 and 5+6). Based on the recommendation of Graham et al. (2000) we created parcels of engagement that were each representative of all the subdomains within engagement (i.e., the domain-representative approach). We grouped the first, second and third items from every subscale together to create 3 parcels (items 1+2+5, 3+4+6, 7+8+9). The job satisfaction scale contained only three items, so we did not create parcels for the job satisfaction variable. After creating parcels, we tested the measurement model in which four parcels loaded on factor Resilience, three parcels loaded on factor Engagement, three parcels loaded on factor Performance and three items loaded on factor Satisfaction. The measurement model had good fit ( $\chi^2(71) = 114.907$ ; CFI = .981; TLI = .976; SRMR = .038; RMSEA = .041). Table 1 shows the descriptive statistics for all latent variables.<sup>1</sup>

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<sup>1</sup> Descriptive statistics for all parcels and items of job satisfaction and correlations between them can be obtained from the first author.

**Table 1.** Descriptive statistics for latent variables

|                 | <i>SD</i> | R    | P    | S    |
|-----------------|-----------|------|------|------|
| R: Resilience   | .009      |      |      |      |
| P: Performance  | .020      | .472 |      |      |
| S: Satisfaction | 2.071     | .441 | .283 |      |
| E: Engagement   | 0.375     | .545 | .397 | .786 |

*Note.* All correlations are significant ( $p < .001$ ).

We estimated the model with maximum likelihood estimation (ML). The fit indices for the hypothesized model indicated a good fit ( $\chi^2(71) = 114.907$ ; CFI = .981; TLI = .976; SRMR = .038; RMSEA = .041), according to Hu and Bentler (1999). The model explained 25.4 % of variance in performance, 29.7 % of variance in engagement and 19.4 % of variance in job satisfaction. Although we included two proposed mediators in the model (engagement and job satisfaction), there was a strong significant direct path (std. est. = .366) from resilience (predictor variable) to performance (outcome variable) (see Table 2 and Figure 1). However, there was also a strong significant path (std. est. = .545) from resilience to engagement and a weak significant path (std. est. = .265) from engagement to performance. The indirect effect of resilience on performance through engagement was weak but significant (std. est. = .145). Engagement weakly mediated the relationship between resilience and performance. Thus, we found support for our second hypothesis.

Furthermore, we found a strong significant path (std. est. = .441) from resilience to job satisfaction. Nevertheless, we did not find any significant relationship between job satisfaction and performance (std. est. = -.086). One could assume that the absence of a path from job satisfaction to job performance may be caused by the presence of engagement in the model, which shared common variance with job satisfaction. However, we did not find a

significant path from job satisfaction to performance even in the model without engagement (std. path from job satisfaction to performance = .088,  $p = .19$ , CFI = .981, RMSEA = .041).

Thus, we did not find support for the hypothesis that job satisfaction mediates the relationship between resilience and performance.

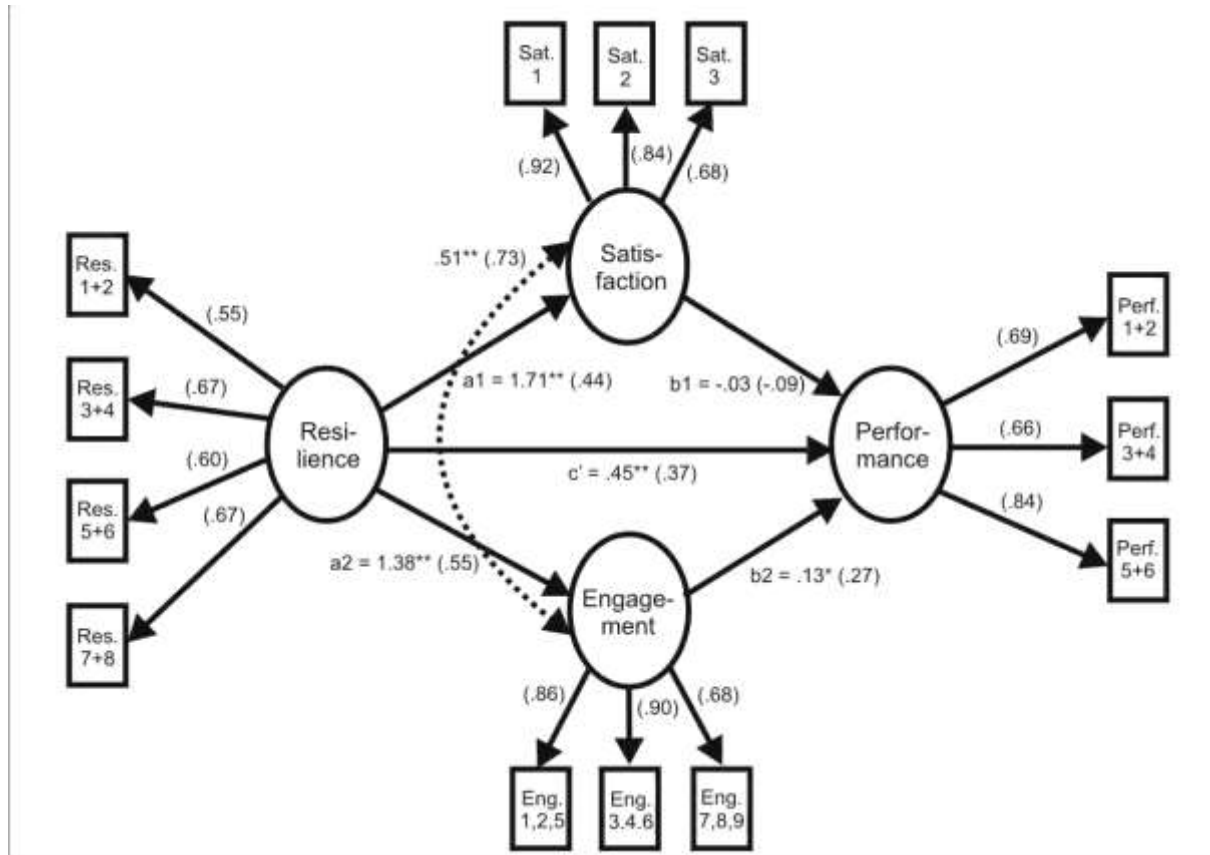
**Table 2.** The structural equation model with direct and indirect effects

|                                     | Est.    | S.E. | 95 % CI      | Stand. est. |
|-------------------------------------|---------|------|--------------|-------------|
| Resilience→Engagement               | 1.375** | .192 | .998; 1.752  | .545        |
| Resilience→Satisfaction             | 1.705** | .278 | 1.160; 2.250 | .441        |
| Resilience→Performance              | .445**  | .110 | .229; .660   | .366        |
| Engagement→Performance              | .128*   | .056 | .019; .237   | .265        |
| Satisfaction→Performance            | -.027   | .033 | -.092; .038  | -.086       |
| Resilience→Engagement→Performance   | .176*   | .078 | .022; .330   | .145        |
| Resilience→Satisfaction→Performance | -.046   | .057 | -.159; .066  | -.038       |
| Engagement with Satisfaction        | .512**  | .058 | .398; .626   | .725        |

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

**Figure 1**

Job satisfaction and engagement as mediators of the relationship between resilience and job performance



Notes.  $*p < .05$ ;  $**p < .01$ ; standardized coefficients are in parentheses.

We also compared the hypothesized model with the null model and two alternative models that were nested in our hypothesized model (see Table 3). Model 1 was a model with three independent predictors of performance (without an indirect effect of resilience on performance through engagement or satisfaction). Model 2 was a model with a full mediation (without a direct path from resilience to performance). Both models had a significantly better fit than the baseline model. However, the best model was the hypothesized model with partial mediation that contained both direct and indirect effects ( $\Delta\chi^2_{(M1-M3)} = 83.762$ ,  $\Delta df_{(M1-M3)} = 2$ ;  $p < .001$ ;  $\Delta\chi^2_{(M2-M3)} = 20.412$ ,  $\Delta df_{(M2-M3)} = 1$ ;  $p < .001$ ).



**Table 3.** The comparison of alternative models

|                               | $\chi^2$ | df | CFI  | RMSEA | 90 %<br>CI <sub>RMSEA</sub> | TLI  | SRMR |
|-------------------------------|----------|----|------|-------|-----------------------------|------|------|
| M0: Null model                | 2452.576 | 91 | .000 | .268  | .258; .278                  | .000 | .318 |
| M1: Direct effects only       | 198.669  | 73 | .947 | .069  | .058; .081                  | .934 | .143 |
| M2: Indirect effects only     | 135.319  | 72 | .973 | .049  | .036; .062                  | .966 | .055 |
| M3: Direct + indirect effects | 114.907  | 71 | .981 | .041  | .027; .055                  | .976 | .038 |

### Discussion

We studied the relationship between resilience and job performance and confirmed that resilience affects the job performance of people in helping professions. In addition, resilience is related to two important positive dimensions of work-related well-being: job satisfaction and job engagement. Resilient people are more satisfied and more engaged at work than their less resilient peers. Only work engagement is related to job performance; thus, engaged people perform better than their less engaged peers, but satisfied workers do not perform better than their less satisfied peers. Consequently, we did not find support for our first hypothesis, because the role of job satisfaction in the relationship between resilience and job performance was not significant. In contrast, the results of Structural Equation Modelling (SEM) support our second hypothesis that the relationship between resilience and job performance can be partly explained by work engagement. Additionally, evidence that work engagement offers a unique explanatory variance beyond that of traditional job satisfaction is a contribution to the debate about work engagement's ultimate utility as a construct.

### Theoretical Implications and Future Research

Our findings contribute to the current personnel psychology literature by providing further evidence of the relationship between resilience and job performance and by partly explaining this relationship by job engagement. This finding is in line with those of Bakker

and Demerouti (2008), who explained that resilience helps people maintain or even develop personal resources despite adversity and reinforces a positive self-image. People with a positive self-image choose activities in line with their personal goals, and this concordance then increases their motivation to fulfill these goals (ibid.). Thus, resilient people tend to be engaged despite adversity. Our results are in line with those of recent studies confirming that work engagement is indeed related to job performance (Bakker & Bal, 2010; Bakker & Xantopoulou, 2009; Gorgievski et al., 2010).

To our knowledge, our study is the first to attest that work engagement plays a mediating role in the relationship between resilience and job performance. Future research should aim to identify other mediators, or eventually moderators, of this relationship. A detailed understanding of the functioning of the relationship between resilience and job performance would be helpful to organizations and supervisors when considering whether resilience training should be provided to help health care professionals be satisfied, engaged and productive and determining which group of workers would profit the most from such training in the workplace. Additionally, our results suggest that work engagement is a useful construct that deserves further attention.

Furthermore, we found a strong significant path from resilience to job satisfaction, which means that resilience is importantly related to job satisfaction. Based on studies by Matos et al.(2010) and Luthans et al.(2006), the relation between resilience and job satisfaction should be further investigated. Our study provides further evidence of this relationship. Nevertheless, in contrast with the common belief that “a happy worker is a productive worker”, we did not find any significant relationship between job satisfaction and performance. One could assume that the absence of a path from job satisfaction to job performance may be caused by the presence of work engagement in the model, leading to shared common variance with job satisfaction. However, we did not find a significant path

from job satisfaction to performance even in the model without engagement. This finding is in line with a meta-analysis conducted by Judge et al. (2001), who collected 254 studies focusing on the relationship between job satisfaction and job performance and found varying results – the relationship between job satisfaction and job performance varied from weakly negative to strongly positive. Similarly, Davar and RanjuBala (2012) collected 48 studies in which the relationship between job satisfaction and job performance varied from none to strongly positive. The substantial variation in the individual correlations may be a consequence of numerous variables intervening in this relationship (for more details, see Davar & Ranju Bala, 2012); e.g., global measures (referring more to emotions) display somewhat higher correlations with job performance than do measures formed from a composite of job satisfaction facets (assessing job satisfaction in a more cognitive way) (Judge et al., 2001). The scale we used recognizes job satisfaction in both the affective and the cognitive way. Further investigation of the relationship between job satisfaction and job performance is still needed.

Moreover, some researchers are ambivalent about the incremental value of engagement over other constructs as a predictor of behavior (Newman & Harrison, 2008). Based on our analysis, the different roles of the two positive dimensions of work-related well-being in the relationship between resilience and job performance reflect that even though state engagement occupies a common conceptual space with satisfaction (Macey & Schneider, 2008), they represent conceptually distinct constructs with different antecedents and outcomes (see also Christian et al., 2011). Whereas job satisfaction is focused on the affective aspects of work, , work engagement is focused on physical, emotional, and cognitive aspects of involvement with the job, (Christian et al., 2011). Work engagement connotes activation, as opposed to satisfaction, which is more similar to satiation (Macey & Schneider, 2008). Because of higher levels of activation (drive), engaged employees put more effort into their

work and therefore perform better than merely satisfied employees. This finding matches the circumplex model of employee well-being (Salanova, Del Libano, Llorens, & Schaufeli, 2014). Thus, careful distinctions between job satisfaction and work engagement are meaningful.

Finally, Kim, Kolb and Kim (2012) reported nine studies in which work engagement was found to mediate the relationship between performance and other factors (i.e., self-efficacy, trust, coaching, value congruence, perceived organizational support, self-evaluation, transformational leadership, workplace ostracism, and procedural justice). Our finding that engagement also mediates the relationship between performance and resilience broadens their findings.

### **Practical Implications**

Stress in the workplace impairs both personal and social functioning on the job and thus carries real costs for the individual worker, the people affected by him or her, and the organization as a whole (Maslach & Leiter, 2008). It represents a common problem, as more than half of employees report some amount of lost productivity due to stress at work (APA, 2009). Therefore, it seems crucial to reduce the causes of stress where possible and to enable workers to cope with the degree of stress that is unavoidable. Our study confirmed that a focus on resilience can be one option for addressing stress.

Resilience represents an important predictor of job performance and is also related to two important positive dimensions of work-related well-being: job satisfaction and job engagement. Resilient workers are more satisfied and engaged at work and attain a better job performance than their less resilient peers. These workers are usually healthier (Schaufeli, 2011) and are less likely to quit (Swider et al. 2011); therefore, we recommend assessing resilience when hiring new employees and enhancing the resilience development of current

employees to improve work performance as well as the satisfaction and engagement of workers in organizational settings.

Resilience is a largely malleable phenomenon (Robertson et al., 2015), and as such, it is suitable for intervention based on coaching-related principles, mindfulness and compassion based principles, or multi-modal cognitive-behavioral techniques (Haracz & Roberts, 2016), or workplace changes (Attridge, 2009). The extant research suggests that resilience training can be effective for employees, fostering their mental health and subjective well-being (e.g., Arnetz, Nevedal, Lumley, Backman, & Lublin, 2009; Grant, Curtayne, & Burton, 2009; Pipe et al., 2012), as well as for organizations, providing performance benefits that include improved goal attainment (Grant et al., 2009), productivity (Pipe et al., 2012), and observed behavioral performance (Arnetz et al., 2009). A systematic review of resilience training in the workplace conducted by Robertson and colleagues (2015) indicated that in general, studies offer support for the positive impact of resilience training. As resilience contributes to high job performance via job engagement, organizations should consider providing resilience training, especially for workers in positions where work engagement plays an important role or where the risk of burnout (often conceptualized as the opposite of work engagement) is augmented. Resilience helps these workers remain engaged despite the stress they experience while working; consequently, it enables them to achieve high performance. The groups at risk are not only workers in human services and educational occupations but all those who face a high workload, have little control over their job, lack recognition, work in isolation, perceive their work conditions as unfair or experience values conflicts on the job (Maslach & Leiter, 2008).

### **Limitations**

The cross-sectional nature of our study implies that we cannot test causal relationships. Where inferred, the directionality of relationships is based on and supported by

the existing literature. Nevertheless, the theory-building foundation and cross-sectional findings can provide insights and at least a point of departure for future longitudinal and experimental research.

Although self-reports seem appropriate for measuring attitudes as well as resilience and job performance in certain professions, single-source bias is a methodological threat. To disclose possible common methods bias, we compared our findings with those of previous studies. Partial results were comparable to those that assessed relationships between the same variables based on different sources of information, e.g., measured the relationship between resilience based on self-report and job performance based on objective data and managers' appraisals (Luthans et al., 2007). Further evidence against common method bias is that some of the relationships found between the variables were weak. Nevertheless, future research should address more sources of information to confirm the validity of our results. As mentioned, e.g., peers' and superiors' ratings of job performance could also be used to reduce the possible bias caused by impression management.

Recognition of the limits of generalizability is important. Our sample covered people in various helping professions; thus, we assume our results are generalizable to workers in helping professions. Although the analyses showed no significant effects for profession, future research may use a more diverse sample to replicate the findings and generalize them to all people who experience stress in the workplace.

Overall, our study shows the important role played by resilience for employees working in stressful environments. Work engagement as a mediator plays a role in explaining the relationship between resilience and job performance. Our study therefore contributes to clarifying the role of resilience in stressful workplaces.

### References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*, 888-918. doi: 10.1037/0033-2909.84.5.888
- Albrecht, S. (2010). Employee engagement: 10 key questions for research and practice. In S. L. Albrecht (Ed.), *Handbook of employee engagement: perspectives, issues, research and practice*. Cheltenham: Edward Elgar Publishing Limited.
- Alessandri, G., Borgogni, L., Consiglio, C., & Mitidieri, G. (2015). Psychometric Properties of the Italian Version of the Psychological Capital Questionnaire. *International Journal of Selection and Assessment*, *23*, 149-159. doi: 10.1111/ijsa.12103
- American Psychological Association (2009). *Stress in America 2009*. Retrieved from <https://www.apa.org/news/press/releases/stress/2009/stress-exec-summary.pdf>
- Arnetz, B. B., Nevedal, D. C., Lumley, M. A., Backman, L., & Lublin, A. (2009). Trauma resilience training for police: Psychophysiological and performance effects. *Journal of Police and Criminal Psychology*, *24*, 1-9. doi:10.1007/s11896-008-9030-y
- Attridge, M. (2009). Measuring and managing employee work engagement: A review of the research and business literature. *Journal of Workplace Behavioral Health*, *24*, 383-398. doi: 10.1080/15555240903188398
- Avey, J. B., Wernsing, T. S., & Luthans, F. (2008). Can positive employees help positive organizational change? Impact of psychological capital and emotions on relevant attitudes and behaviors. *The Journal of Applied Behavioral Science*, *44*, 48-70. doi: 10.1177/0021886307311470
- Bakker, A. B., & Bal, P. M. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, *83*, 189-206. doi:10.1348/096317909X402596

- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, *13*, 209-223. doi:10.1108/13620430810870476
- Bakker, A. B., & Demerouti, E. (2009). The crossover of work engagement between working couples: A closer look at the role of empathy. *Journal of Managerial Psychology*, *24*, 220-236. doi:10.1108/02683940910939313
- Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor-partner interdependence model. *Journal of Applied Psychology*, *94*, 1562-1571. doi:10.1037/a0017525
- Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric Properties of the Italian Version of the Utrecht Work Engagement Scale (UWES-9). *European Journal of Psychological Assessment*, *26*, 143-149. doi:10.1027/1015-5759/a000020
- Block, J. (1961). Ego identity, role variability, and adjustment. *Journal of Consulting Psychology*, *25*, 392-397. doi: 10.1037/h0042979
- Bonanno, G. A., Papa, A., & O'Neill, K. (2001). Loss and human resilience. *Applied and Preventive Psychology*, *10*, 193-206. doi: 10.1016/S0962-1849(01)80014-7
- Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows*. Thousand Oaks, CA: Sage Publications.
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the connor–davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, *20*, 1019-1028. doi: 10.1002/jts.20271
- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, *64*, 89-136. doi: 10.1111/j.1744-6570.2010.01203.x



Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009).

Happiness unpacked: positive emotions increase life satisfaction by building resilience. *Emotion*, 9, 361-368. doi: 10.1037/a0015952

Davar, S. C., & RanjuBala. (2012). Relationship between job satisfaction & job performance:

a meta-analysis. *Indian Journal of Industrial Relations*, 290-305. Retrieved from:  
<http://www.jstor.org/stable/23509839>

De Bruin, G. P., & Henn, C. M. (2013). Dimensionality of the 9-item utrecht work

engagement scale (UWES-9). *Psychological Reports*, 112, 788-799. doi:  
10.2466/01.03.PR0.112.3.788-799

Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P. M., & Schaufeli, W. B. (2001).

Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work Environment and Health*, 27, 279-286. doi: 10.5271/sjweh.615

Faragher, E. B., Cass, M., & Cooper, C. L. (2005). The relationship between job satisfaction

and health: a meta-analysis. *Occupational and Environmental Medicine*, 62, 105-112.  
doi:10.1136/oem.2002.006734

Fishbein, M., & Ajzen, I. (1974). Attitudes towards objects as predictors of single and

multiple behavioral criteria. *Psychological review*, 81, 59-74. doi: 10.1037/h0035872

Fonagy, P., Steele, M., Steele, H., Higgitt, A., & Target, M. (1994). The Emanuel Miller

Memorial Lecture 1992: The theory and practice of resilience. *Child Psychology & Psychiatry & Allied Disciplines*, 35, 231-257. doi: 10.1111/j.1469-7610.1994.tb01160.x

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical*

*Transactions of the Royal Society Series B: Biological Sciences*, 359, 1367-1377. doi:  
10.1098/rstb.2004.1512

Garnezy, N. (1971). Vulnerability research and the issue of primary prevention. *American*

*Journal of Orthopsychiatry*, 41, 101-116. doi: 10.1111/j.1939-0025.1971.tb01111.x

- Gorgievski, M. J., Bakker, A. B., & Schaufeli, W. B. (2010). Work engagement and workaholism: comparing the self-employed and salaried employees. *Journal of Positive Psychology, 5*, 83-96. doi:10.1080/17439760903509606
- Graham, J. W., Tatterson, J. W., & Widaman, K. F. (2000, October). Creating parcels for multi-dimensional constructs in structural equation modeling. In *Annual meeting of the Society of Multivariate Experimental Psychology*, Saratoga Springs, NY.
- Grant, A. M., Curtayne, L., & Burton, G. (2009). Executive coaching enhances goal attainment, resilience and workplace well-being: A randomized controlled study. *The Journal of Positive Psychology, 4*, 396-407. doi:10.1080/17439760902992456
- Hackman, J. R., & Oldham, G. R. (1974). The job diagnostic survey: An instrument for the diagnosis of jobs and the evaluation of job redesign projects. *JSAS Catalog of Selected Documents in Psychology, 4*, 148-149. Retrieved from:  
<http://files.eric.ed.gov/fulltext/ED099580.pdf>
- Haglund, M. E., Nestadt, P. S., Cooper, N. S., Southwick, S. M., & Charney, D. S. (2007). Psychobiological mechanisms of resilience: Relevance to prevention and treatment of stress-related psychopathology. *Development and Psychopathology, 19*, 889-920. doi: 10.1017/S0954579407000430
- Haracz, K., & Roberts, E. (2016). Workplace resilience interventions show some evidence of positive effects, particularly on mental health and wellbeing. *Australian Occupational Therapy Journal, 63*, 57-58. doi: 10.1111/1440-1630.12277
- Harrison, D. A., Newman, D. A., & Roth, P. L. (2006). How important are job attitudes? Meta-analytic comparisons of integrative behavioral outcomes and time sequences. *Academy of Management Journal, 49*, 305-325. doi: 10.5465/AMJ.2006.20786077

- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: Multidisciplinary Journal*, 6, 1-55. doi:10.1080/10705519909540118
- Hudgins, T. A. (2016). Resilience, job satisfaction and anticipated turnover in nurse leaders. *Journal of Nursing Management*, 24, 62–69. doi: 10.1111/jonm.12289
- Jennings, P. A., Frank, J. L., Snowberg, K. E., Coccia, M. A., & Greenberg, M. T. (2013). Improving classroom learning environments by Cultivating Awareness and Resilience in Education (CARE): Results of a randomized controlled trial. *School Psychology Quarterly*, 28, 374-390. doi: 10.1037/spq0000035
- Judge, T. A., Bono, J.E., Erez, A. and Locke, E.A. (2005), "Core self-evaluations and job and life satisfaction: the role of self-concordance and goal attainment", *Journal of Applied Psychology*, 90, 257-68. doi: 10.1037/0021-9010.90.2.257
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, 127, 376-407. doi: 10.1037/0033-2909.127.3.376
- Judge, T. A., & Watanabe, S. (1993). Another look at the job satisfaction-life satisfaction relationship. *Journal of Applied Psychology*, 78, 939-948. doi: 10.1037/0021-9010.78.6.939
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724. doi: 10.2307/256287
- Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research*, 44, 486-507. doi: 10.1177/0049124114543236

- Kim, W., Kolb, J. A., & Kim, T. (2013). The relationship between work engagement and performance: A review of empirical literature and a proposed research agenda. *Human Resource Development Review, 12*, 248-276. 10.1177/1534484312461635
- Krush, M. T., Agnihotri, R. A. J., Trainor, K. J., & Krishnakumar, S. (2013). The salesperson's ability to bounce back: examining the moderating role of resiliency on forms of intrarole job conflict and job attitudes, behaviors and performance. *Marketing Management Journal, 23*, 42-56. Retrieved from:  
<http://www.mmaglobal.org/publications/MMJ/MMJ-Issues/2013-Spring/MMJ-2013-Spring-2013-Complete.pdf#page=49>
- Larson, M., & Luthans, F. (2006). Potential added value of psychological capital in predicting work attitudes. *Journal of Leadership & Organizational Studies, 13*, 75-92. doi: 10.1177/10717919070130020601
- Lioassis, P., Shochet, I. M., Millear, P. M., & Biggs, H. C. (2009). The promoting adult resilience (PAR) program: the effectiveness of the second, shorter pilot of a workplace prevention program. *Behaviour Change, 26*, 97-112. doi: 10.1375/bech.26.2.97
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*, 151-173. doi:10.1207/S15328007SEM0902\_1
- Locke, E. A. (1969). What is job satisfaction?. *Organizational Behavior and Human Performance, 4*, 309-336. doi: 10.1016/0030-5073(69)90013-0
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior, 23*, 695-706. doi: 10.1002/job.165
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60*, 541-572. doi: 10.1111/j.1744-6570.2007.00083.x

- Luthans, F., Avolio, B. J., Walumbwa, F. O., & Li, W. (2005). The psychological capital of Chinese workers: Exploring the relationship with performance. *Management and Organization Review*, *1*, 247-269. doi: 10.1111/j.1740-8784.2005.00011.x
- Luthans, F., Vogelgesang, G. R., & Lester, P. B. (2006). Developing the psychological capital of resiliency. *Human Resource Development Review*, *5*, 25-44. doi: 10.1177/1534484305285335
- Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, *12*, 857-885.
- Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, *1*, 3-30. 10.1111/j.1754-9434.2007.0002.x
- Mache, S., Vitzthum, K., Wanke, E., David, A., Klapp, B. F., & Danzer, G. (2014). Exploring the impact of resilience, self-efficacy, optimism and organizational resources on work engagement. *Work*, *47*, 491-500. doi: 10.3233/WOR-131617
- Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, *93*, 498-512. doi: 10.1037/0021-9010.93.3.498
- Matos, P. S., Neushotz, L. A., Griffin, M. T. Q., & Fitzpatrick, J. J. (2010). An exploratory study of resilience and job satisfaction among psychiatric nurses working in inpatient units. *International Journal of Mental Health Nursing*, *19*, 307-312. doi: 10.1111/j.1447-0349.2010.00690.x
- May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, *77*, 11-37. doi:10.1348/096317904322915892

- McAllister, M., & McKinnon, J. (2009). The importance of teaching and learning resilience in the health disciplines: a critical review of the literature. *Nurse Education Today*, 29, 37-79. doi: 10.1016/j.nedt.2008.10.011
- Muthén, L. K., & Muthén, B. O. (1998-2011). *Mplus user's guide*. Los Angeles, CA: Muthén & Muthén.
- Newman D. A., & Harrison D. A. (2008). Been there, bottled that: Are state and behavioral work engagement new and useful construct “wines”? *Industrial and Organizational Psychology*, 1, 31-35. doi: 10.1111/j.1754-9434.2007.00003.x
- Othman, N., Ghazali, Z., & Ahmad, S. A. (2013). Resilience and work engagement: A stitch to nursing care quality. *Journal of Global Management*, 6, 40-48. Retrieved from: [http://s3.amazonaws.com/academia.edu.documents/36031920/Journal\\_Of\\_Global\\_Management\\_Vol\\_6\\_No\\_1\\_July\\_2013.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1485256821&Signature=OMI9P5blnyvowGcSFA6OdIWKEmI%3D&response-content-disposition=inline%3B%20filename%3DJournal\\_Of\\_Global\\_Management\\_Vol\\_6\\_No\\_1.pdf#page=44](http://s3.amazonaws.com/academia.edu.documents/36031920/Journal_Of_Global_Management_Vol_6_No_1_July_2013.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1485256821&Signature=OMI9P5blnyvowGcSFA6OdIWKEmI%3D&response-content-disposition=inline%3B%20filename%3DJournal_Of_Global_Management_Vol_6_No_1.pdf#page=44)
- Paek, S., Schuckert, M., Kim, T. T., & Lee, G. (2015). Why is hospitality employees' psychological capital important? The effects of psychological capital on work engagement and employee morale. *International Journal of Hospitality Management*, 50, 9-26. doi: 10.1016/j.ijhm.2015.07.001
- Pipe, T. B., Buchda, V. L., Launder, S., Hudak, B., Hulvey, L., Karns, K. E., & Pendergast, D. (2012). Building personal and professional resources of resilience and agility in the healthcare workplace. *Stress and Health*, 28, 11–22. doi:10.1002/smi.1396

- Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal*, *53*, 617 - 635. doi: 10.5465/AMJ.2010.51468988
- Riketta, M. (2008). The causal relation between job attitudes and performance: A meta-analysis of panel studies. *Journal of Applied Psychology*, *93*, 472–481. doi: 10.1037/0021-9010.93.2.472
- Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, *88*, 533–562. doi: 10.1111/joop.12120
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, *21*, 600-619. doi: 10.1108/02683940610690169
- Salanova, M., Del Líbano, M., Llorens, S., & Schaufeli, W. B. (2014). Engaged, workaholic, burned-out or just 9-to-5? Toward a typology of employee well-being. *Stress and Health*, *30*, 71-81. doi: 10.1002/smi.2499
- Schaufeli, W. B. (2011). Work Engagement: What do we know? [Powerpoint slides]. Retrieved from:  
[http://www.psihologietm.ro/OHPworkshop/schaufeli\\_work\\_engagement\\_1.pdf](http://www.psihologietm.ro/OHPworkshop/schaufeli_work_engagement_1.pdf)
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, *25*, 293-315. doi: 10.1002/job.248
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*, 701-716. doi: 10.1177/0013164405282471

- Schaufeli, W. B., Salanova, M., Gonzalez-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies*, 3, 71-92. doi: 10.1023/A:1015630930326
- Simons, J.C., & Buitendach, J.H. (2013). Psychological capital, work engagement, and organisational commitment amongst call centre employees in South Africa. *SA Journal of Industrial Psychology*, 39, 1-12. doi: 10.4102/sajip.v39i2.1071
- Simpson, M. R. (2009). Engagement at work: A review of the literature. *International Journal of Nursing Studies*, 46, 1012-1024. doi:10.1016/j.ijnurstu.2008.05.003
- Steel, R. P., Rentsch, J. R., & Hendrix, W. H. (2002). Cross-level replication and extension of Steel and Rentsch's (1995) longitudinal absence findings. *Journal Of Business & Psychology*, 16, 447–456. doi: 10.1023/A:1012829125272
- Sweetman, D., & Luthans, F. (2010). The power of positive psychology: Psychological capital and work engagement. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 54–68). Hove, East Sussex: Psychology Press.
- Swider, B. W., Boswell, W. R., & Zimmerman, R. D. (2011). Examining the job search-turnover relationship: The role of embeddedness, job satisfaction, and available alternatives. *Journal of Applied Psychology*, 96, 432–441. doi: 10.1037/a0021676
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, 86, 320-333. doi: 10.1037/0022-3514.86.2.320
- Vaculik, M., Vytaskova, J., Prochazka, J., & Zalis, L. (2016). Mindfulness, Job Satisfaction and Job Performance: Mutual Relationships and Moderation Effect. In *Proceedings from the 21st International Scientific Conference, Economics and Management*.



Yoon, J., & Thye, S. R. (2002). A dual process model of organizational commitment: Job satisfaction and organizational support. *Work and Occupations, 29*, 97-124. doi: 10.1177/0730888402029001005