

Stressed out public servants? Testing the stress appraisal of psychological and emotional stressors on stress reactions through psychological capital

Public
servants'
stress as a
continuum

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Abstract

Purpose – PA scholars argue that two gaps are present in the stress literature: (1) “stress” is too simply treated as deleterious and (2) insufficient efforts are made to capture public servants’ stress appraisal, i.e. the degree to which stressors are appraised as hindering or challenging. Overcoming Gap 1, this study aims to study stress as a continuum; from distress to eustress. Overcoming Gap 2, stress appraisal is studied through testing the interaction of PsyCap with the two most common clusters of public servants’ job stressors: emotional and psychological stressors.

Design/methodology/approach – Hypotheses are tested through structural equation modeling. A sample is used in this study of 1,853 Dutch public servants.

Findings – The results show that emotional and psychological stressors are high, but public servants often appraise them as challenging or as “part of the job”, with consequently no increased distress or decreased eustress. Moreover, psychological capital helps public servants to appraise some of the negative effects of emotional, but not psychological, stressors as less deleterious.

Originality/value – By approaching stress as a continuum, the authors bring in a more complete picture of public servants’ stress in PA literature. Moreover, this research shows that the ambiguous results in the existing stress literature about the consequences of emotional and psychological stressors on distress/eustress can partially be explained by sector differences as well as personality differences (i.e. PsyCap). Finally, this study criticizes the one-sided attention to PsyCap as purely positive. PsyCap is not only unhelpful in coping with psychological stressors, it also drains the challenging properties of psychological stressors for dedication.

Keywords Work engagement, Psychological capital, Workaholism, Work stress, Burnout, Emotional and psychological stressors

Paper type Research paper

Introduction

Work-related stress and stressors are receiving increasing attention in public administration (PA) literature (Hsieh, 2012; Borst *et al.*, 2020; Giauque *et al.*, 2013), which is unsurprising, given the relatively high stress levels of public servants due to the general trend among public organizations to achieve more with less means (Bao and Zhong, 2019; Eldor, 2017; Liu *et al.*, 2015). However, many PA scholars also argue that insufficient efforts have been made to capture how work stressors are appraised by public servants, and that their “stress” is too simply treated as a deleterious factor (Bao and Zhong, 2019; Eldor, 2017; Liu *et al.*, 2015). These two gaps will be studied in this research.

First, this research addresses the bias in PA research to explain stress as straightforwardly negative (Bao and Zhong, 2019). This one-sided focus arises because most PA scholars explain the stress process by usage of the Job Demands-Resources (JD-R) model (e.g. Giauque *et al.*, 2013; Hsieh, 2012). The stress process refers to a set of physiological, cognitive and/or emotional reactions that individuals generate when they face environmental



conditions such as (potential) threats (i.e. job stressors) (e.g. Lazarus and Folkman, 1987). Within the JD-R model, this is rather one-sidedly “translated” to a focus on merely one stress reaction; burnout (Schaufeli and Taris, 2014). Moreover, the JD-R model juxtaposes this stress process with the motivational process, where work engagement is presented as the counterpart of burnout. Resultantly, PA research takes a rather black-and-white perspective on stress. However, if we delve deeper into the stress literature, stress reactions can also be placed more on a continuum, with distress (negative states of stress) on the one end, and eustress (i.e. positive states of stress) on the other. Taken this perspective, burnout is seen as distress and work engagement as eustress. A concept that is positioned somewhere in between is workaholism, which has been framed both positively (Clark *et al.*, 2016) and negatively (Schaufeli *et al.*, 2008a, b). Scholars comparing it with work engagement and burnout, indeed found that workaholism is a distinct form of stress (Bakker and Oerlemans, 2011). Still, workaholism, as a possible gray form of stress, has received barely any attention in PA so far (Borst *et al.*, 2020). This research will study workaholism next to engagement and burnout, improving our understanding of states of stress in general, and address the bias in PA to frame stress as merely burned-out.

Second, this research addresses the limited contextualization of the so called stress appraisal process – i.e. the degree to which people appraise stressors as hindering or challenging – in research. Several studies show that employees in (public) service organizations are predominantly confronted with both emotional and psychological job stressors (van Vegchel *et al.*, 2004). However, it is increasingly questioned whether these stressors are as hindering as previously suggested. Studies show that certain stressors can be appraised as challenging, which may be stressful but also motivational (Crawford *et al.*, 2010). In other words, where hindering stressors are traditionally linked to states of distress, challenging stressors are argued to also be linked to states of eustress. So far, the results of research into the effects of different types of job stressors are conflicting and ambiguous (e.g. Li *et al.*, 2020). This research argues that these ambiguous results might be explained by the limited attention for context in this stress appraisal process.

In this respect, it is suggested that, for example, public servants might appraise emotional stressors as challenging rather than hindering because they deliberately choose a job in which they have to deal with demanding clients and emotionally charged situations (Hsieh, 2012). Moreover, it is suggested that public servants possibly have useful personal resources that help them cope with the job stressors (Davis *et al.*, 2020). One of these personal resources that is (theoretically) argued to help public servants is Psychological Capital (PsyCap) (De Jonge and Dormann, 2006), which refers to a comprehensive and malleable trait consisting of self-efficacy, resilience, hope and optimism, probably the most focused upon characteristics of public servants since the pandemic (Plimmer *et al.*, 2021; Grover *et al.*, 2018). However, similar to the lack of PA studies on the stress appraisal process, research into PsyCap is virtually non-existent in the public sector. To address this gap, this study examines, as one of the first (for an exception, see Davis *et al.*, 2020), a contextualized public servants’ stress appraisal process, aiming to improve our understanding of the ambiguous mechanisms of how job stressors are linked to states of stress among public servants. It does so by answering the following research question:

RQ. To what extent do psychological and emotional job stressors relate to burnout, workaholism and work engagement of public employees, and what coping role does PsyCap play in these relationships?

To study this question, a sample of 1,853 Dutch public employees is collected through a survey, which was distributed among 14,821 subscribers to the mailing list of *Binnenlands Bestuur*, a bi-weekly magazine for Dutch public servants. The remainder of this article is structured as follows. The “Theory” section presents the theoretical background, resulting in seven hypotheses. Afterward, the data are presented in the “Methods” section, followed by

the analyses in the “Results” section. Finally, in the “Discussion” section, several avenues for further research are explored on stress in the public sector.

Theory

The stress process

According to the classical stress literature, the stress process refers to “a set of physiological, cognitive and/or emotional reactions that individuals generate when they face environmental conditions such as (potential) threats or opportunities” (e.g. Lazarus and Folkman, 1987). However, recent insights show that there are drastic variations in how people react to the same environmental condition. Davis *et al.* (2020), therefore, define the stress process as “adaptive emotional responses, moderated by individual differences, that are a consequence of appraising any action, situation, or event that places demands upon a person.” The JD-R model builds on this definition and disentangles the process in three building blocks: (1) emotional reactions as the states of stress, (2) the action, situation or event that places demands upon a person as the job stressors and (3) the individual differences that explains to what degree stressors lead to stress (Le Blanc *et al.*, 2008). We explain these three building blocks below in the same order as the definition above by starting with the end of the stress process (i.e. the states of stress), followed by the start of the stress process (i.e. the job stressors leading to the states of stress), ending with the individual differences moderating the relation between the start and end of the stress process (the stress appraisal).

States of stress: the adaptive emotional responses

As mentioned in the introduction, the most frequently studied state of stress in PA is burnout. Burnout is defined as a chronic state of distress that, at its core, is characterized by emotional exhaustion (i.e. feeling emotionally drained and used up) and cynicism (i.e. mental distancing and lack of enthusiasm) (Schaufeli, 2017). Hsieh (2012) argues that burnout is higher in public service organizations than in other organizations because public servants frequently have emotional relations with citizens in bad situations, which leads to feeling drained and used up.

By contrast, work engagement is defined as a positive state of stress (i.e. eustress) that is characterized by vigor (i.e. high levels of energy and resilience), dedication (i.e. experiencing a sense of significance and pride) and absorption (i.e. being fully concentrated and engrossed in one’s work). Borst *et al.* (2020) show that work engagement is the highest among (semi-)public employees because their dedication is high, which represents experienced work meaningfulness and purposefulness. Interestingly though, work engagement and burnout are often seen as two sides of the same coin, but studies show that the dedication and absorption dimension of work engagement are not significantly opposing to the emotional exhaustion dimension of burnout (Schaufeli *et al.*, 2002).

These findings can be further explained when we look at workaholism, which is defined as a psychological tendency to work excessively hard and being obsessed with work, i.e. working compulsively (Schaufeli *et al.*, 2009). Compared to burnout and work engagement, workaholism is not framed uniformly in research, with some framing it as eustress (Baruch, 2011), and others as distress. This ambiguity is also visible in the empirical evidence. For example, Borst *et al.* (2020) show that the rate of workaholism and work engagement of particularly public servants are highly correlated. This might have to do with the fact that the absorption dimension of work engagement is highly related with the working excessively dimension of workaholism (Clark *et al.*, 2016). Being immersed in ones work logically overlaps with working a lot. However, studies also found positive connections with dimensions of burnout, non-significant connections with vigor and dedication, and even positive connections with enjoyment and absorption (see the meta-analysis of Clark *et al.*, 2016).

Thus, it becomes clear that analyzing the general emotional reactions as either burnout, workaholism or work engagement paints a too rough picture. Emotional reactions are multidimensional and are interconnected, which makes it too complex to just pinpoint an employee as either burned-out, engaged or addicted to work (Schaufeli and Salanova, 2014). Therefore, following calls from PA scholars (Bao and Zhong, 2019; Eldor, 2017; Liu *et al.*, 2015), this study examines the emotional reactions of public servants on a dimensional level to be able to conduct a more fine-grained analysis.

Job stressors: the action, situation or event that places demands upon a person

Where “the action, situation, or event that places demands upon a person” is rather undefined, JD-R scholars brought more clarity. JD-R scholars have developed multidimensional clustered approaches to job stressors, with a main distinction between psychological and emotional stressors (with a further distinction within the psychological cluster in quantitative stressors, such as time pressure, and qualitative stressors, such as job complexity). In this respect, van Vegchel *et al.* (2004) show that employees in service organizations (e.g. public servants) mostly have to deal with emotional stressors and psychological stressors but barely any physical stressors. Psychological stressors are defined as job situations of high time pressure, high working pace and high work complexity that put demands upon a person (Karasek, 1979). Emotional stressors are defined as job situations (an action, situation or event) that will trigger an emotional response more quickly. In other words, emotional stressors are not emotional reactions in itself but are demands that might more quickly lead to sustained emotional effort than, e.g. psychological stressors that are more likely to trigger psychological responses. For example, employees in public organizations are confronted with many facets of human problems and suffering (e.g. poverty, disease and criminality) and may have problematic social interactions with clients (van Vegchel *et al.*, 2004).

Psychological capital as the collection of individual differences that determine the stress appraisal

In the stress process, individual differences are framed as personal resources, which are psychological characteristics that are generally associated with resiliency and that refer to the ability to control and impact one’s environment successfully (Schaufeli and Taris, 2014). PsyCap is one of the most comprehensive personal resources as it refers to “an individual’s positive psychological state, characterized by: (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success” (Luthans *et al.*, 2007, p. 3). PsyCap is seen as a composite construct, as the four dimensions are argued to have synergistic effects (i.e. hope increases optimism while optimism increases efficacy) (Grover *et al.*, 2018).

PsyCap distinguishes itself from other composite personal resources, such as the Big 5 personality traits, as it is state-like and inherently malleable. In other words, it is not a relatively unchangeable psychological trait but can be developed by [human resource (HR)] managers (Luthans *et al.*, 2007; Grover *et al.*, 2018). As public HR managers are in dire need of strategies to overcome public servants’ stress, the focus on this strong malleable personal resource is relevant (Davis *et al.*, 2020). Despite these apparent merits, PsyCap of public servants has barely been studied. Moreover, the few PA studies that do study public servants’ PsyCap find no straightforward answer whether PsyCap indeed moderates the relation between perceived job stressors by public servants and their emotional reactions (Grover

et al., 2018). This study argues that this depends on how stressors are appraised by employees which, in turn, depends on the public institutional context.

Stress appraisal: the gap between stressors and states of stress

According to the JD-R model, in its most basic form, job stressors lead to higher distress such as burnout and lower eustress such as work engagement. Although this stress process seems rather straightforward, the empirical results are far more ambiguous. On the one hand, some studies did find that both psychological and emotional stressors increased emotional exhaustion and cynicism (i.e. burnout dimensions), and decreased vigor, dedication and absorption (i.e. work engagement) (Van den Broeck *et al.*, 2017). On the other hand, however, other studies found no significant connection between psychological and emotional stressors and burnout dimensions (Hsieh, 2012; van Vegchel *et al.*, 2004), nor a decrease in the dimensions of work engagement (Li *et al.*, 2020). There is even evidence that psychological stressors can increase dimensions of work engagement (van Vegchel *et al.*, 2004). To understand these contradictory results, it is not only important to study the emotional reactions on the dimensional level, but also to dive deeper into the so-called stress appraisal process (Li *et al.*, 2020).

According to the stress appraisal process, a stressor is appraised in two phases (Lazarus and Folkman, 1987; Li *et al.*, 2020). First, a stressor is appraised as either being harmful to one's personal needs (i.e. hindering) or as a possibility to fulfill one's needs and inherently to grow from (i.e. challenging), which determines to what degree a stressor is experienced as distressful or eustressful. More specifically, some job stressors appeal to employees' curiosity, competence and thoroughness, which inherently challenges them to reach goals (Bakker and Demerouti, 2017; Van den Broeck *et al.*, 2010). By contrast, other job stressors diminish employees' work goal achievement and well-being and are therefore called hindering. Second, it is appraised whether the employee can cope with the stressor, which depends on their personal resources (i.e. PsyCap). As a result, as many stressors are "neither clearly positive nor negative and so are most likely to be open to personal appraisal" (Hobfoll, 1989, p. 519), a stressor can be interpreted in different ways.

In both phases in the stress appraisal process, the public sector context plays an important role. Indeed, Hsieh (2012) argues that emotional stressors are not related to dimensions of burnout because they are not appraised as hindering by public servants since these stressors are well institutionalized and internalized by public servants as part of the job. Moreover, Borst *et al.* (2019) did not find a negative effect of the psychological stressor red tape on work engagement among public servants if the public servants' coping resources are accounted for. Resultantly, it might be argued that compared to employees in other institutional contexts, work stressors might be appraised differently by public servants and, inherently, that their emotional reactions are also different (Bao and Zhong, 2019). This is further hypothesized for the three states of (eu-)stress below.

Distress: burnout. As already mentioned above, emotional stressors might be hardly perceived as hindering by public servants (Hsieh, 2012). Moreover, Van den Broeck *et al.* (2017) show that psychological stressors neither affect public servants' emotional exhaustion nor their cynicism. Consequently, public servants only need to capitalize on their PsyCap to a limited extent to cope with these stressors. Besides, according to the Demand-Induced Strain Compensation (DISC) model that explains the mechanisms behind stress appraisal more deeply, resources do not randomly moderate the impact of job stressors on stress but interact most effectively with job stressors that are of a common kind (De Jonge and Dormann, 2006). In other words, psychological and emotional resources interact most effectively with psychological and emotional stressors, respectively. In line with this principle, it is expected

that PsyCap helps to cope with *psychological stressors* more strongly than with emotional stressors. This discussion leads to the following hypotheses:

- H1a. Experienced emotional and psychological stressors by public servants have no significant relation with both dimensions of burnout.
- H1b. The PsyCap of public servants is a stronger significant coping resource in the relation between psychological stressors and the dimensions of burnout than between emotional stressors and the dimensions of burnout.

Eustress: work engagement. Similar to the relation between emotional stressors and burnout, it is expected that emotional stressors do not hinder public servants' vigor, dedication and absorption as these stressors are well institutionalized and internalized as a norm in the public sector (Hsieh, 2012). Moreover, several studies showed that psychological stressors may appeal to employees' curiosity and competence, leading to higher vigor, dedication and absorption (Bakker and Demerouti, 2017; Crawford *et al.*, 2010). Interestingly though, whether employees appraise the psychological stressors as challenging seems to depend on the institutional context. Indeed, Van den Broeck *et al.* (2017) showed that public servants appraise psychological stressors as challenging, but employees in the healthcare and private sector do not. It is well known that public servants have to deal with a high workload (important psychological stressor) as they need to serve many stakeholders, including citizens, supervisors and politicians (Liu *et al.*, 2015). Resultantly, public servants might be socialized in this context of multifarious stressors and even chose a job in the public sector because of it (Liu *et al.*, 2015).

Due to the positive first appraisal of psychological stressors, public servants are likely to also possess enough PsyCap to cope with job this type of stressors. And again, as PsyCap and psychological stressors are of a common kind, it is expected that PsyCap is a stronger coping resource for psychological stressors than emotional stressors (De Jonge and Dormann, 2006). Hence:

- H2a. Experienced psychological stressors by public servants positively relate with all three dimensions of work engagement.
- H2b. Experienced emotional stressors by public servants have no significant relation with all three dimensions of work engagement.
- H2c. The PsyCap of public servants is a stronger significant coping resource in the relation between psychological stressors and the dimensions of work engagement than between emotional stressors and the dimensions of work engagement.

Distress/eustress: workaholism. As mentioned before, both emotional and psychological stressors may not be appraised by public servants as hindering and may not be negatively related to burnout and work engagement. For workaholism, however, the only study among public servants showed that workaholism is a distressful state, and psychological stressors do increase workaholism (Midje *et al.*, 2014). According to Bakker and Demerouti (2017), this may be explained by the fact that workaholism determines the appraisal itself. Schaufeli *et al.* (2008a, b) build on this and show that workaholics try to create more work by making their work more complicated (psychological stressors) or try to resolve additional cases of citizens in distress (emotional stressors). To satisfy their addiction to work, employees take on more job stressors, which lead to working more compulsively and excessively, which, again, lead to taking on more job stressors.

The question remains though whether other personal resources might influence these addictive reactions. Although, to the best of our knowledge, PsyCap as a whole construct is not studied before as a moderator between stressors and dimensions of workaholism, one

study showed that employees with high self-efficacy may have higher standards for their performance, exerting the impact of stressors on workaholism (Mazzetti *et al.*, 2014). Consequently, in line with the DISC model, it is expected that PsyCap fosters the relation between psychological stressors and dimensions of workaholism even more than emotional stressors (De Jonge and Dormann, 2006). Hence:

- H3a.* Experienced emotional and psychological stressors by public servants have positive relations with both dimensions of workaholism.
- H3b.* The PsyCap of public servants increases the relation between psychological stressors and the dimensions of workaholism more strongly than between emotional stressors and the dimensions of workaholism.

Conceptual model

Based on the preceding hypotheses, the conceptual model shown in Figure 1 was developed.

Methods

Participants

To test the hypotheses, a survey was developed, which was distributed among 14,821 subscribers to the mailing list of Binnenlands Bestuur, a bi-weekly magazine for higher-educated employees in the Dutch public sector. On July 27, 2019, Binnenlands Bestuur sent the e-mail containing the invitation to the survey. A reminder was sent on August 27, 2019.

In total, 2,350 respondents started the survey, but people were removed who did not provide information about their age, educational level or gender (the demographic control variables). The final sample consisted of 1,853 respondents. Table 1 shows the demographics of the sample in comparison to the demographics of the latest "Personnel and Mobility Survey," which is a representative survey conducted every other year by the Dutch Ministry of the Interior and Kingdom Relations (2017) (Personeels en Mobiliteitsonderzoek; POMO).

The vast majority of the respondents worked for a municipality ($n = 1,465$; 79.1%), while relatively few respondents worked for other types of government organizations that were distinguished, being national government ($n = 154$; 8.3%), provinces ($n = 131$; 7.1%),

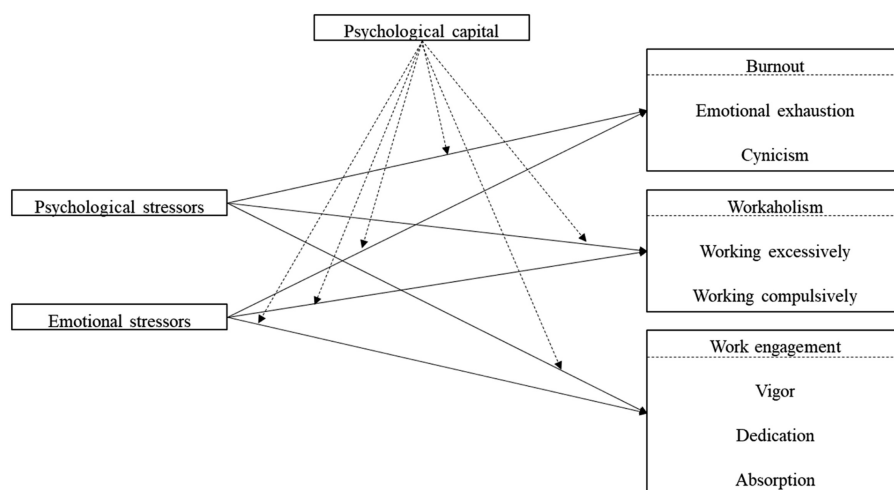


Figure 1.
Conceptual model

Sector	Characteristic	Personnel and mobility survey 2016	Sample Binnenlands Bestuur
Municipalities	<i>Task description (%)</i>		
	County clerk	1.5	1.8
	Management (strategic, tactical, operational, program/project)	10.1	24.5
	Policy (advice, development, implementation, service delivery, enforcement)	49.9	49.3
	Support staff and technostructure (e.g. ICT, HRM, facility management)	37.2	24.1
	Other/refrain	1.3	0.3
	Gender (male/female)	51.5/48.5	50.7/49.3
	Mean educational level (scale 1–11) ^a	5.97	7.26
	Mean age	Between 50 and 55	49.72
	Central and regional government, including waterboards	<i>Task description (%)</i>	
Management (strategic, tactical, operational, program/project)		14.7	27.9
Policy (advice, development, implementation, service delivery, enforcement)		64.3	48.9
Support staff and technostructure (e.g. ICT, HRM, facility management)		15.5	22.6
Other/refrain		5.5	0.6
Gender (male/female)		58.9/41.1	55.4/44.6
Mean educational level (scale 1–11) ^a		6.30	7.90
Mean age		Between 50 and 55	49.21

Table 1. Sample characteristics

Note(s): ^aReaches from *primary education*, until academic education, where 6 is higher professional education, and 7 is university bachelors

waterboards ($n = 69$; 3.7%) and others (e.g. semi-autonomous agencies ($n = 34$; 1.8%)). As Table 1 shows, the distributions regarding gender and age are comparable with the representative data. However, the educational level of both the municipalities and other governments is somewhat higher than the representative data. This also results in some overrepresentation of managerial positions.

Measures

The respondents answered all items on a five-point Likert-type scale and represent employee perceptions. All scales ranged from 1 (totally disagree) to 5 (totally agree). In Table 2, means, standard deviations and correlations between all study variables are presented. With every measure below, the average variance extracted (AVE) and construct reliability (CR) were given. AVE represents good convergent validity when the value is above 0.5, and CR represents good validity when the value is above 0.6 (Fornell and Larcker, 1981).

The three dimensions of work engagement. Vigor, dedication and absorption were all three measured with the validated Utrecht Work Engagement Scale (UWES-9) (Schaufeli et al., 2002).

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	49.68	10.81												
2. Gender ^a	0.51	0.50	0.265 ^{***}											
3. Education	5.35	0.88	-0.241 ^{***}	-0.077 ^{***}										
4. Vigor	4.41	0.88	0.034	-0.008	0.068 ^{**}									
5. Dedication	4.65	0.72	0.031	-0.011	0.068 ^{**}	0.962 ^{***}								
6. Absorption	4.11	0.82	-0.005	-0.045	0.064 ^{**}	0.843 ^{***}	0.842 ^{***}							
7. Working excessively	3.42	1.05	-0.107 ^{***}	-0.078 ^{***}	0.108 ^{***}	-0.067 ^{**}	-0.064 ^{**}	0.058 ^{**}						
8. Working compulsively	2.92	1.05	-0.115 ^{***}	-0.080 ^{***}	0.094 ^{***}	-0.086 ^{***}	-0.084 ^{***}	0.040	0.987 ^{***}					
9. Emotional exhaustion	1.88	1.05	-0.044	-0.024	-0.025	-0.764 ^{***}	-0.792 ^{***}	-0.567 ^{***}	0.469 ^{***}	0.463 ^{***}				
10. Cynicism	1.91	1.01	0.001	0.010	-0.031	-0.850 ^{***}	-0.849 ^{***}	-0.692 ^{***}	0.372 ^{***}	0.372 ^{***}	0.808 ^{***}			
11. Psychological stressors	4.20	0.74	-0.034	-0.030	0.111 ^{***}	0.354 ^{***}	0.356 ^{***}	0.356 ^{***}	0.571 ^{***}	0.512 ^{***}	0.009	-0.113 ^{***}		
12. Emotional stressors	3.38	1.08	0.075	-0.003	0.023	0.059 [*]	0.061 ^{**}	0.118 ^{***}	0.410 ^{***}	0.369 ^{***}	0.260 ^{***}	0.178 ^{***}	0.631 ^{***}	
13. PsyCap	4.46	0.52	0.028	0.030	0.068 ^{**}	0.759 ^{***}	0.744 ^{***}	0.626 ^{***}	-0.137 ^{***}	-0.159 ^{***}	-0.642 ^{***}	-0.699 ^{***}	0.400 ^{***}	0.022

Note(s): ^{*} $p \leq 0.05$. ^{**} $p \leq 0.01$. ^{***} $p \leq 0.001$

^aFemale = 0, Male = 1

Table 2. Means, standard deviations and correlations

An example item of vigor is, "At my work, I feel bursting with energy" (CR = 0.93; AVE = 0.81). An example item of dedication is, "I am proud of the work that I do" (CR = 0.94; AVE = 0.83). An example item of absorption is, "I am immersed in my work" (CR = 0.83; AVE = 0.61).

The two dimensions of workaholism. Working excessively and working compulsively were both measured using seven items (three for working excessively, four for working compulsively) from the validated Dutch Work Addiction Scale (DUWAS) (Schaufeli *et al.*, 2008a, b). An example item of working excessively is, "I seem to be in a hurry and race against the clock" (CR = 0.58; AVE = 0.31). An example item of working compulsively is, "It's important to me to work hard even when I don't enjoy what I'm doing" (CR = 0.77; AVE = 0.46). While the AVEs are a bit low, they are acceptable with CRs around 0.60 (Formell and Larcker, 1981).

The two core dimensions of burnout. As Demerouti *et al.* (2010) show, the core dimensions grasping the distressful state of burnout are emotional exhaustion and cynicism. These are measured with the validated Utrecht Burnout Scale (UBOS), the Dutch version of the Maslach Burnout Inventory (MBI) (Schaufeli and Van Dierendonck, 2000). An example item of emotional exhaustion is, "I feel emotionally drained due to my work" (CR = 0.93; AVE = 0.72). An example item of cynicism is, "I am doubtful about the usefulness of my work" (CR = 0.89; AVE = 0.67).

Psychological stressors. Psychological stressors were measured with the validated four-item scale of the second version of the Copenhagen Psychosocial Questionnaire (COPSOQ II) (Pejtersen *et al.*, 2010). An example item is, "I have to keep my eyes on a lot of things while I work" (CR = 0.87; AVE = 0.63).

Emotional stressors. Emotional stressors were measured with the validated four-item scale of the COPSOQ II (Pejtersen *et al.*, 2010). An example item is, "My work puts me in emotionally disturbing situations" (CR = 0.85; AVE = 0.60).

Psychological capital. PsyCap was measured with the validated Psychological Capital Questionnaire (PCQ-12), which entails self-efficacy, hope, optimism and resilience (Luthans *et al.*, 2008). Example items are, "I feel confident analyzing a long-term problem to find a solution" and "If I should find myself in a jam at work, I could think of many ways to get out of it" (CR = 0.92; AVE = 0.56). Due to the high shared variance between the dimensions, one factor is used loading all items on PsyCap (Luthans *et al.*, 2008).

Measurement model of the latent constructs. To test whether the latent constructs fit together, a confirmatory factor analysis (CFA) with a weighted least squares means and variance adjusted (WLSMV) estimator was conducted. The results showed adequate model fit (comparative fit index [CFI] = 0.91; Tucker-Lewis index [TLI] = 0.90; root mean square error approximation [RMSEA] = 0.06). Given the fact that the data come from a single source, common-method variance (CMV) may be an issue (George and Pandey, 2017). A Harman's single-factor test was performed, in which all items loaded onto one factor. Although criticized, this test can be used to indicate the possible presence of CMV (George and Pandey, 2017). This model had a significantly worse fit compared with the measurement model (CFI = 0.56; TLI = 0.54; RMSEA = 0.12).

Control variables. Three control variables were also included. Gender is dummy coded (0 = male; 1 = female). Age was expressed in number of years. Education was coded into seven categories, reflecting the Dutch educational system (1 = primary education, 2 = prevocational secondary education, 3 = senior general secondary education and preuniversity education, 4 = secondary vocational education, 5 = higher professional education, 6 = university education, 7 = PhD).

Data analysis

The hypotheses were tested using structural equation modeling performed in Mplus version 7.4. We chose to keep respondents in the analysis that have partial missing data.

Many respondents have one or a few questions not filled out, which is common in applied social research. To overcome these missingness, the robust maximum likelihood estimator treating the indicators as categorical (MLR-CAT) performs very well with both missing data and nonnormality of ordinal indicators (five-point Likert scale) with reasonable datasets of more than 200 respondents (Lei and Shiverdecker, 2020). As a result, this estimator is used to test the hypotheses.

To test the direct and moderation effects, two structural models are developed for every dependent variable (i.e. every dimension of work engagement, both dimensions of burnout and both dimensions of workaholism). Within the first model of every dependent variable, only the direct effects are tested. Within the second model of every dependent variable, the added value of the moderators is tested using simple slopes.

As the MLR-CAT estimator with latent interactions does not lead to fit measures, the additional variance explained, the Akaike information criterion (AIC), the Bayesian information criterion (BIC) and the significance of the interaction are analyzed to tell whether the moderating effects matter (Little *et al.*, 2006). When the additional variance explained of the second model (the moderation model) is higher, the AIC and BIC are lower, and the effect is significant, relative to the first model (the direct effects model), the moderation is meaningful. An interaction plot is presented to interpret the moderation.

Results

In Table 3, the results are shown for the direct and moderation effects in, respectively, Models 1 and 2 of every outcome variable. To interpret the significant moderations (with small negative or even positive changes in AIC and BIC) in Table 3, Figure 2 shows the simple slopes.

Distress: emotional exhaustion and cynicism (burnout)

In H1a, it was expected that both emotional and psychological stressors would not significantly relate with the dimensions of burnout. H1a is mostly rejected because Table 3 shows that only the relation between psychological stressors and cynicism is insignificant. In contrast to the expectations, psychological stressors are positively related to emotional exhaustion ($\beta = 0.19, p \leq 0.05$), and emotional stressors are positively related to both emotional exhaustion ($\beta = 0.19, p \leq 0.05$) and cynicism ($\beta = 0.13, p \leq 0.05$).

According to H1b, it was expected that the PsyCap of public servants is a stronger significant coping resource in the relation between psychological stressors and the dimensions of burnout than between emotional stressors and the dimensions of burnout. However, as Table 3 shows, none of the moderating effects regarding emotional exhaustion and cynicism is significant. Hence, H1b is rejected.

Eustress: vigor, dedication and absorption (work engagement)

In line with H2a, psychological stressors are positively related to dedication ($\beta = 0.13, p \leq 0.05$) and absorption ($\beta = 0.09, p \leq 0.05$), but insignificant in relation to vigor. H2a is, therefore, partially accepted.

Also, in line with H2b, emotional stressors are insignificant in relation to the vigor of public servants. However, they are negatively related to dedication ($\beta = -0.10, p \leq 0.05$) and positively related to absorption ($\beta = 0.09, p \leq 0.05$). H2b is, therefore, mostly rejected.

According to H2c, it was expected that the PsyCap of public servants is a stronger significant coping resource in the relation between psychological stressors and the dimensions of work engagement than between emotional stressors and the dimensions of work engagement. As Table 3 shows, the effect of PsyCap is positive for the relation between

Table 3.
Structural equation
models

	Vigor		Dedication		Absorption		Working excessively ^b		Working compulsively		Emotional exhaustion		Cynicism	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Age	0.076 ^{***}	0.108 ^{***}	0.170 ^{***}	0.115 ^{***}	-0.014	0.008	-0.066 [*]	-0.044 [*]	-0.074	-0.104 ^{***}	-0.042 [*]	-0.053 ^{**}	0.047 [*]	0.020
Gender ^a	-0.036	-0.021	-0.013	-0.040	-0.077 ^{***}	-0.067 ^{**}	-0.056	-0.118	-0.024	-0.031	0.022	0.021	0.048 [*]	0.033
Education	0.048 ^{**}	0.094 ^{***}	0.144 ^{***}	0.082 ^{***}	0.000	0.028	0.104 ^{***}	0.083 ^{***}	0.090	0.053 ^{**}	-0.006	-0.022 ^{**}	0.002	-0.039 [*]
Psychological stressors	0.052	0.010	0.132 ^{**}	0.083	0.090 [*]	0.090 [*]	0.723 ^{***}	0.963 ^{***}	0.412	0.433 ^{***}	0.190 ^{***}	0.186 ^{***}	0.002	0.009
Emotional stressors	-0.039	0.006	-0.100 [*]	-0.051	0.086 [*]	0.093 [*]	0.044	0.074	0.081	0.073	0.194 ^{***}	0.192 ^{***}	0.131 ^{***}	0.134 ^{***}
PsyCap	0.658 ^{***}	0.666 ^{***}	0.534 ^{***}	0.567 ^{***}	0.499 ^{***}	0.503 ^{***}	-0.199 ^{***}	-0.250 ^{***}	-0.302 [*]	-0.308 ^{***}	-0.641 ^{***}	-0.647 ^{***}	-0.589 ^{***}	-0.601 ^{***}
Psychological stressors *		-0.040		-0.130 ^{***}		-0.032		0.074		-0.018		-0.023		-0.008
PsyCap		0.094 [*]		0.116 ^{**}		0.023		-0.196 ^{***}		-0.073		-0.026		0.021
Emotional stressors *														
PsyCap		0.466 ^{***}		0.391 ^{***}		0.320 ^{***}		0.518 ^{***}		0.249 ^{***}		0.432 ^{***}		0.366 ^{***}
R ²	87.439.263	87.454.821	84.871.319	84.852.925	89.627.731	89.649.110	94.660.958	94.638.741	99.201.868	99.157.416	95.569.027	95.595.337	92.436.841	92.487.710
AIC	88.207.177	88.233.784	85.639.233	85.631.888	90.395.645	90.428.074	95.428.872	95.417.705	99.997.405	99.964.002	96.392.186	96.429.546	93.232.378	93.294.296
BIC														

Note(s): * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$
^aFemale = 0, Male = 1
^bFor the structural models regarding working excessively, age is recoded into categories since some ages had such small differences that convergence was problematic.
This is not problematic since the interpretation stays the same

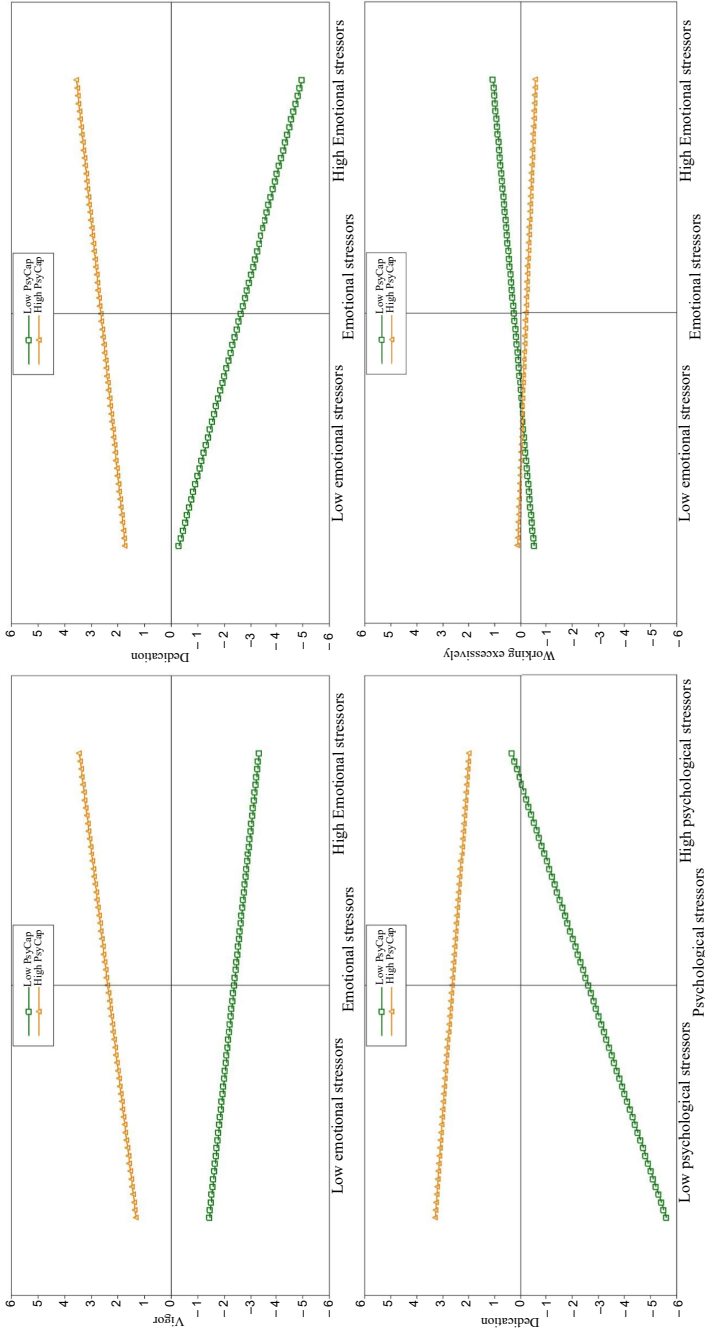


Figure 2. Simple slopes significant moderations

emotional stressors and vigor ($\beta = 0.09, p \leq 0.05$) and for the relation between emotional stressors and dedication ($\beta = 0.12, p \leq 0.05$). From [Figure 2](#) it can be deduced that the effects of emotional stressors become far weaker with high PsyCap than with low PsyCap, even leading to positive possible positive effects between emotional stressors and dedication. Moreover, [Table 3](#) shows that the effect of PsyCap is negative for the relation between psychological stressors and dedication ($\beta = -0.13, p \leq 0.05$). From [Figure 2](#), it can be deduced that the effect of psychological stressors on dedication is almost nonexistent for public servants with high PsyCap, while the effect is more positive with low PsyCap. Still, high PsyCap provides for a level of dedication than PsyCap, even in the presence of high psychological stressors. In sum, [H2c](#) is rejected as PsyCap is more often a significant coping resource between emotional stressors and dimensions of work engagement than between psychological stressors and dimensions of work engagement.

Eustress/distress: working excessively and compulsively (workaholism)

As [Table 2](#) shows, workaholism significantly correlated with both cynicism and emotional exhaustion. Moreover, there is only a small positive correlation between working excessively and absorption, while vigor and dedication are negatively correlated with both working excessively and compulsively. Based on these results, it is safe to say that working excessively and compulsively are more distressful than eustressful emotional reactions for to public servants.

According to [H3a](#), it was expected that both psychological and emotional stressors are positively related to the dimensions of workaholism. In line with this hypothesis, [Table 3](#) shows that psychological stressors indeed lead to excessive ($\beta = 0.72, p \leq 0.05$) and compulsive working ($\beta = 0.43, p \leq 0.05$). However, [Table 3](#) also shows that emotional stressors are not related to either excessive or compulsive working. [H3a](#) is, therefore, partially accepted.

According to [H3b](#), it was expected that the PsyCap of public servants increases the relation between psychological stressors and the dimensions of workaholism more strongly than between emotional stressors and the dimensions of workaholism. As [Table 3](#) and [Figure 2](#) show though, there is only a negative significant moderating effect of PsyCap on the relation between emotional stressors and working excessively ($\beta = -0.20, p \leq 0.05$). It turns out that PsyCap helps public servants to cope with emotional stressors. Since the other moderating effects are non-significant, [H3b](#) is rejected.

Discussion

This article makes two distinct contributions to the PA literature by (1) taking a broader perspective toward the states of stress by public servants and (2) studying how stress is appraised by employees in a public sector context. These two contributions are elaborated upon below.

Regarding the first contribution, PA stress literature has predominantly focused on burnout and its counterpart work engagement ([Bao and Zhong, 2019](#); [Eldor, 2017](#); [Liu et al., 2015](#)). However, this study approaches stress more as a continuum, with burnout as a form of distress (negative states of stress) on the one end, work engagement as a form of eustress (i.e. positive states of stress) on the other, and workaholism as a more ambiguous state of stress in between. Although the working excessively dimension of workaholism has some minor overlaps with the absorption of work engagement, it turns out that the dimensions of workaholism are distressful states in their own right, next to public servants' emotional exhaustion and cynicism. In line with [Schaufeli et al. \(2009\)](#), vigorous, dedicated and absorbed public servants are more likely to be happy productive workers, while excessive and

compulsive public servants are more likely to be unhappy productive workers. Resultantly, it becomes clear that, besides (dimensions of) burnout, other states of distress need to be taken into account by future stress-related PA studies if we want to fully grasp the stress reactions of public servants (Schaufeli *et al.*, 2009).

Regarding the second contribution, we show that the ambiguous results in the existing stress literature about the relation between job stressors and stress (Van den Broeck *et al.*, 2017) can be partly explained by public servants' stress appraisal, which, in turn, is determined by the institutional context. Indeed, public servants often initially appraise emotional and psychological stressors as challenging because they regard them as institutionalized in their job, while employees in most other sectors appraise them as hindering (Hsieh, 2012). We show that emotional stressors do not lower public servants' vigor and absorption nor instigate excessive and compulsive working. Moreover, public servants even experience more dedication and absorption due to psychological stressors.

Still, it seems that stressors are, in some cases, appraised as hindering, given the findings that psychological stressors increase public servants' emotional exhaustion, and excessive and compulsive working, while emotional stressors increase their emotional exhaustion and cynicism. These insights not only provide nuance to the existing PA stress literature (Bao and Zhong, 2019; Eldor, 2017; Liu *et al.*, 2015), but also show that it is interesting to explore job choices of public servants in the context of stress appraisal. According to the attraction–selection–attrition model (Schneider, 1987), employees choose an organization/sector based on shared values, shared psychological attributes or the job content, but this study indicates that job stressors may also be of particular importance.

Besides the importance of taking the context into account in the stress appraisal, we also show that the personal resource PsyCap is important in the appraisal as it helps public servants to cope with predominantly emotional stressors. Indeed, the negative consequences of emotional stressors on public servants' vigor and dedication weaken when public servants have high PsyCap. Also, excessive working due to emotional stressors seem to completely disappear when public servants have high PsyCap. These findings are not only important for PA stress literature but also for public HR management (HRM) literature. PsyCap is one of the most encompassing traits that can be developed and enhanced through management and HR (Grover *et al.*, 2018). As a result, the HR literature can be combined with the psychological concept PsyCap to understand how HRM can alleviate emotional stressors and, consequently, lower the stress of public servants.

However, at the same time, PsyCap is not helpful in coping with psychological stressors. As a matter of fact, the positive challenging influence of psychological stressors on dedication even disappears with high PsyCap, counteracting the statement that “the more PsyCap, the better.” An explanation for these counterintuitive results might possibly be found in the literature about tipping points in job and personal resources (Van Veldhoven *et al.*, 2020; Schaufeli and Taris, 2014). It might be the case that after a certain level of PsyCap, employees experience a “tipping point,” which means that psychological stressors no longer challenge these employees. For public servants with high PsyCap, psychological job stressors might no longer be appealing as they do not trigger their curiosity or competence anymore. Consequently, they no longer become increasingly dedicated because of these psychological stressors. In line with the call of Van Veldhoven *et al.* (2020), this study, therefore, contributes to recent studies that confirm the necessity of taking a more nuanced perspective toward the single positive-sided explanation of job and personal resources.

Based on these findings, it can in sum be concluded that PsyCap is a better coping resource in relation to emotional stressors than in relation to psychological stressors. This is rather unexpected as the DISC model posits that *psychological* resources, like PsyCap, are better aligned to *psychological* stressors than to *emotional* stressors. It would, therefore, be expected that PsyCap would better help public servants to cope with the negative consequences of

psychological stressors than with emotional stressors. These counterintuitive results might be explained by drawing the line further regarding the attraction–selection–attrition model (Schneider, 1987) and include the idea of demands–abilities fit as well as a critical perspective toward the distinction between psychological and emotional stressors. Emotional stressors are stressors explicitly connected to specific instances within a particular job, i.e. jobs with social interactions with clients. Consequently, from the perspective of the attraction–selection–attrition model, employees might choose for jobs with emotional stressors because they have particular psychological attributes (i.e. PsyCap) that fits/helps them to deal with these specific emotional stressors (i.e. demands–abilities fit). By contrast, employees may generally not choose specifically for jobs with psychological stressors because this type of stressors consists of a wide variety of stressors, such as time pressure and job complexity, that are not specific to a particular job. Consequently, psychological attributes (i.e. PsyCap) might fit with one type of psychological stressors, such as high workload, but maybe not with others (i.e. demands–abilities misfit). Consequently, the DISC model is an interesting general model to analyze the stress appraisal, but future research might focus more in-depth on the matching of particular personal resources with particular job stressors experienced by public servants to track down how states of distress can be overcome among public servants (Borst and Knies, 2021).

Limitations and future research directions

First, all measures are questioned in the same survey. As a result, the data could be subject to common-method bias. While this might have influenced the main effects between the various stressors and either motivational or stress reactions, interaction effects are less sensitive to common-method bias (George and Pandey, 2017). Moreover, the Harman’s one-factor test did not indicate large issues as well (George and Pandey, 2017).

Second, due to the cross-sectional data, the expected causality, which is assumed by the stress appraisal process, cannot be completely confirmed (Davis *et al.*, 2020). Although many JD-R studies support this causality, future studies using longitudinal or experimental designs are needed to test the actual causality of these relationships (Bauwens *et al.*, 2021). These experimental studies might also focus on the causality among the states of stress. As this study shows, absorption relates to working excessively, and working excessively as well as working compulsively partly overlap with cynicism and emotional exhaustion. To enhance our understanding of the stress appraisal process, it might, therefore, be interesting to study over time whether absorption can lead to working excessively, which in turn can lead to emotional exhaustion (Junker *et al.*, 2021).

Third, public servants with a relatively high education are somewhat overrepresented. Moreover, the sample consists of public servants with a wide variety of positions. As a result, the perceived stressors might be biased in two ways. First, highly educated employees are more often confronted with high psychological stressors than low educated employees. Second, highly educated employees often have more resources (i.e. higher PsyCap). As a result, how stress is appraised and coped with might be influenced due to these personal differences. Studies focusing on the determinants of the appraisals itself are missing (Li *et al.*, 2020). Future research might, therefore, focus on the peculiarities of personal and contextual differences in the stress appraisal process (in line with Davis *et al.*, 2020).

Contributions for practice

Based on the discussion, this article has three contributions and inherently recommendations for public (HR/people) managers.

Watch out for the hindering side of psychological and emotional stressors. Psychological and emotional stressors are high among public servants, confirming the PA stress literature

(Bao and Zhong, 2019). Although it was expected that public servants would appraise these stressors as challenging (Hsieh, 2012), this study shows that this applies only sometimes. Emotional stressors do increase emotional exhaustion, and cynicism and psychological stressors do increase emotional exhaustion, working excessively and compulsively. As a consequence, public servants experience various forms of distress due to these stressors. According to the JD-R theory, people managers should, therefore, balance these stressors with resources. The most important resources to invest in according to public servants are work-related resources (e.g. autonomy, task variety and colleague support) (Borst *et al.*, 2019).

Watch out for workaholism and emotional exhaustion, especially among young public servants. Workaholism, defined through working excessively and working compulsively, is relatively high. It is particularly striking that these states are also significantly higher among young public servants. This also applies to emotional exhaustion. In addition, eustressful states, including vigor and dedication, are higher among older public servants. This is a worrying trend. As a result, psychological capabilities such as resilience are important to teach to younger public servants so they can cope with job stressors (Plimmer *et al.*, 2021).

Invest in psychological capital through interventions. PsyCap, including, hope, optimism, resilience and self-efficacy, not only decreases distressful states and increases eustressful states, it also sometimes diminishes the detrimental effects of emotional stressors. It is, therefore, recommended to apply intervention programs to enhance public servants' PsyCap (Grover *et al.*, 2018). Studies showed that employees trained through PsyCap interventions develop greater resiliency and optimism, which translates into positive states such as vigor, dedication and absorption (see for overview, Grover *et al.*, 2018). As Grover *et al.* (2018) show, interventions can be applied inexpensively through Web-based training programs focusing on video discussions with facilitators, but also through reading-based interventions teaching employees about goals and how to achieve them in the face of adversity.

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