The functioning of rescue workers in life tasks: development of a test

Heilwine Bakker Balans & Impuls, The Hague, The Netherlands Marc van Veldhoven Department of Human Resources Studies, Tilburg University, Tilburg School of Social and Behavioral Sciences, Tilburg, The Netherlands Tony Gaillard Tilburg University, Tilburg School of Social and Behavioral Sciences, Tilburg, The Netherlands, and

> Remy Hertogs and Margot Feenstra Balans & Impuls, The Hague, The Netherlands

Abstract

Purpose – Since policemen have a highly demanding job, they have a high risk of developing mental health problems, which may have a negative influence on their private life. The purpose of this paper is to present a new questionnaire for measuring the functioning of rescue workers in life tasks outside of work.

Design/methodology/approach – The internal consistency, factor structure and concurrent validity of this life tasks test (LTT) were examined in a group of 108 policemen.

Findings – The test measures perceived effectiveness in the following five domains: social life, maintaining mental health, household and finance, giving meaning and maintaining positivity. Cronbach's α was acceptable for two scales (> 0.60) and good for the other three (> 0.70). The hypothesized five-factor structure of the LTT was corroborated in a confirmatory factor analysis. Concurrent validity was examined by correlating the scores on the LTT with two established questionnaires, one for personality characteristics and work characteristics and work stress. All LTT scales, with the exception of social life, showed significant correlations with social support, workload and personality. **Research limitations/implications** – This provides support for the concurrent validity of the

Research limitations/implications – This provides support for the concurrent validity of the questionnaire. Practical uses and future research are discussed.

Practical implications – The items are close to everyday clinical practice. It adds valuable information to the commonly used questionnaires on mental health complaints. The test may also provide insight on which life tasks domains are functioning well and which are in need of attention to improve the effectiveness.

Social implications – In both preventive and curative mental health support, it is important to enhance the effectiveness in life tasks, because it works as a buffer for the adversity of rescue work. Moreover, it gives rescue workers mastery of their personal life, makes self-management stronger, as well as it gives feelings of confidence and positive energy.

Originality/value - This is the first questionnaire to be designed and implemented for rescue workers.

Keywords Work stress, Mental health, Personality, Life tasks, Policemen

Paper type Research paper

Introduction

Rescue workers have a demanding job, especially when they work in the frontlines. This can have a negative impact on their functioning in life tasks. Adler (1912) was the first to introduce the term life tasks. Life tasks are about striving for specific goals, building up a life and striving for significance. He identified three main challenges in life tasks with which individuals are confronted and these are work, social relations and love. Later he added the life task "self and spirituality." Huber (2014) asserts that these life tasks are important pillars of health and well-being.

Functioning of rescue workers in life tasks

> Received 29 March 2019 Revised 26 June 2019 Accepted 15 July 2019



International Journal of Emergency Services © Emerald Publishing Limited 2047-0894 DOI 10.1108/JJES-03-2019-0014 IJES

Research shows that an accumulation of involvement in critical incidents makes the rescue worker susceptible for the development of psychological symptoms (Monnier et al., 2002; Dorresteijn et al., 2003; Halpern and Maunder, 2011; de Boer et al., 2011). For example, a Dutch study (Houtman *et al.*, 2005) showed that job stress for police officers is higher than for average Dutch employees. Their jobs entail a higher tempo and contain more sources of tension. Being attuned to the job on a 24/7 basis, its all-pervasive character, the irregular shifts and chronic understaffing make it difficult to find sufficient time to recover and maintain a private life (Vila, 2006; Eriksen and Kecklund, 2007). Most studies emphasize the risks of rescue workers' sacrificing their health and private life, for recent examples see the studies by Harvey et al. (2016) and Siffaki-Pistola et al. (2017). On the other hand, rescue workers do a job which makes a difference in the lives and safety of other people. So, it is not all negative. For example, Leppma *et al.* (2018) showed post-traumatic growth (PTG) in policemen after a disaster. We encountered some problems in the development of a scale for measuring relationships in family life. The research group was too small to enable us to distinguish between the many different options of family compositions. We decided to omit this facet from the further construction process. The current analysis therefore is based on the following five life tasks: social life, maintaining mental health, household and finance, giving meaning and maintaining positivity.

Life tasks

In the present study we focused on practical daily life tasks. On the basis of earlier research, the following domains were regarded as the most important life tasks: family life, social life, household and finance, maintaining mental health, giving meaning and maintaining positivity.

The aim of the present study is to develop a test for measuring the effectiveness of the functioning of rescue workers in their life tasks. Before we turn to the development of the test, the relevant literature about the impact of rescue work on the effectiveness in life tasks will be briefly reviewed for each of the domains mentioned above.

Social life

Several studies show that a supportive environment can act as a protective buffer. Social support by friends moderates negative effects in life (Bandura, 2001) and it is believed to be positively associated with satisfaction, productivity and negatively with burnout (Baruch-Feldman *et al.*, 2002). Stetz *et al.* (2006) showed the importance of social support in units of military police, where it was believed that social support moderates the effect of strain in a relationship. Supervisor support in particular is related to satisfaction and productivity but not to burnout, whereas family support is related to job stress (i.e. burnout) and less with productivity (Evans *et al.*, 2013). Yasien *et al.* (2016) and Chae and Boyle (2013) showed the importance of sense of community and bonding to others, which lowers psychological distress.

Maintaining mental health

Self-efficacy appears to play a critical role in the recovery of post-traumatic stress and in the impact of loss of resources (Benight and Harper, 2002; Bandura, 2001). Cicognani *et al.* (2009) studied emergency workers and found that a sense of community is positively related to efficacy beliefs and active coping strategies. Heinrichs *et al.* (2005) concluded that firemen develop more PTSD and feelings of hostility, if they score low on self-efficacy. Self-efficacy buffers the impact of perceived stressful encounters on professional quality of life (Prati *et al.*, 2010; Regehr *et al.*, 2003; Robyn *et al.*, 2011). Shepherd and Wild (2014) found in ambulance workers, that enhanced coping was associated with making more positive appraisals and greater levels of objectivity during these call-outs. Also, Sonnentag and Grant (2012) showed that perceived competence and reflection foster positive work reflection after-work hours.

Household and finance

The practical organization of household chores and finance is an important life task that can easily come under pressure due to long hours and irregular shifts. Elbogen *et al.* (2012) found the following protective factors among a group of veterans: paid employment, self-care and stable financial situation. Moreover, respondents with mental health problems had more financial and job problems than participants without those mental health problems. In a study by Bailey *et al.* (1998) on mental health care professionals, financial stress is responsible for 30 percent of the variance of personal and job happiness.

Giving meaning

Research on the role of meaning in treatment is still in its early stages (Cheavens *et al.*, 2006). The more important the role rescue workers play in a mission or assignment, the better they are able to cope with the stress (Schok *et al.*, 2008). The professional role of being of meaning in life saving and well-being is an important protective factor (Abelsson, 2018). Allen *et al.* (2011) found a higher resilience predicts less distrust in others and the world and more personal growth. Giving meaning in response to adverse and stressful events acts as a protective buffer and facilitates recovery.

Maintaining positivity

Sonnentag and Grant (2012) found that positive work reflection was associated with a higher perceived competence and predicted a positive affect at home. The ability to mentally detach from work is also associated with improved affective states at home (Ogińska-Bulik and Zadworna-Cieślak, 2018). Additionally, engaging in positive activities buffers against negative feelings and beliefs about self-efficacy (Caprara and Steca, 2005). Helping others is an experience of success that can boost feelings of competence (Grant and Campbell, 2007; Penner *et al.*, 2005). Maintaining positivity is an aspect of resilient people, they experience a mix of negative and positive emotions, without letting negative emotions overwhelm them (Fredrickson, 2009; Calhoun and Tedeschi, 2006). In a study among rescue workers, Yasien *et al.* (2016) show that religion, sense of community and sense of importance for helping others are related to less psychological distress. The ability to stay positive in work seems like an important dimension in the life tasks of rescue workers.

Test development

The "life tasks test" (LTT) was developed for research purposes but it may also be used in clinical practice for preventive and curative support to rescue workers. It may contribute to diagnosing problem areas of the client by examining whether they function well in their life tasks.

The concept of life tasks was first introduced by Adler (1912) and later Cantor *et al.* (2002) developed a LTT based on this theory. As far as we know there is no LTT specific for rescue workers. Most psychological tests for rescue workers focus on mental health and personality, and contain few questions referring to the functioning in life tasks. For example, the quality of life test (Wang *et al.*, 2004) and the PTG test (Tedeschi and Calhoun, 2006) pay limited attention to the functioning in private life. With the LTT we will be able to obtain more specific information about effectiveness in the life tasks for rescue workers.

The scale structure and items were developed on the basis of our literature review as presented above, as well as on the basis of the first author's long experience in clinical practice counseling and training rescue workers. During the development phase, the questions were discussed with a small group of eight rescue workers and a team of psychologists.

The list of items is presented in "items of the LTT" (list shown below) and the psychometric properties in Table I.

Functioning of rescue workers in life tasks

IJES	Items of the LTT:											
	(1) Social life:											
	• I can maintain	friendshi	ps;									
	• I can give support and sympathy in my friendships;											
	• I can receive support and sympathy in my friendships ^a ; and											
	• I can maintain my social network.											
	(2) Maintaining menta	l health:										
	• I can deal with	my emot	tions effe	ctively;								
	• I can deal with	stress ef	fectively;									
	• I can deal with	adversity	y effectiv	rely;								
	• I can deal with shocking events; and											
	• I am effective in searching for sources of relaxation and energy.											
	(3) Household and fina	ance:										
	• I can manage money effectively;											
	• I can build a stable romantic relationship ^a ;											
	I can run the household chores effectively; andI can manage the financial administration effectively.											
												(4) Giving meaning:
	• I can pursue an education or a course with success;											
		• I believe that m	ıy work i	s of sign	ificance in	a larger	whole;					
	• I try to learn from the things that I experience in life;											
	• I contribute in a	improvin	g difficul	lt situatior	ns; and							
	I feel relevant in my life.(5) Maintaining positivity:											
	 hard to stay po 	sitive;										
	• the disturbing incidents I experience at work make it; and											
	 hard to stay vibrant and hopeful in life. 											
	Note: ^a Removed after confirmatory factor analysis (CFA).											
		Mean	SD	1	2	3	4	5				
Table I. Means, standarddeviations and inter- correlations and Cronbach's α (on the	 Social life Maintaining mental health Household and finance Giving meaning 	3.70 3.15 3.77 3.75	0.664 0.688 0.598 0.496	0.822 0.37** 0.31** 0.32**	0.777 0.44** 0.39**	0.753 0.24**	0.615					
diagonal) of the LTT scales	5. Maintaining positivity Notes: <i>n</i> = 108. ** <i>p</i> < 0.01	3.10	1.220	0.16	0.37**	0.13	0.31**	0.9				

0.922

Testing concurrent validity

We choose to test the concurrent validity of the LTT scales with two frequently used questionnaires in this area: one on work characteristics and work stress (e.g. work load, social support, psychological complaints and rumination) and one on personality characteristics (e.g. personality traits). Should the scales in the LTT relate to these wellknown factors as hypothesized, this would provide support for the construct validity of the new instrument. The following four hypotheses were tested:

H1. Lower effective functioning in life tasks is expected to be associated with higher scores on experienced workload.

Critical incidents put a lot of pressure on rescue workers, which affects positive resources in the rescue workers' lives, such as a stable relationship and family life, happiness, vitality and financial position (Heshmati *et al.*, 2010; Cicognani *et al.*, 2009; Slotje *et al.*, 2007). Menard and Arter (2013) found that the number of critical incidents was related to more frequent and more severe PTSD symptoms. Shreffler *et al.* (2011) found that occupational stress, working more than 60 h and lack of sleep were associated with greater work-to-family conflicts. Thus, higher workload appears to cause more work– family conflicts and poorer health and well-being for both individual and family (Bianchi *et al.*, 2005; Gerris and Vermulst, 2009):

H2. Lower effective functioning in life tasks is expected to be associated with reduced social support from colleagues and direct supervisor.

Prati *et al.* (2010) demonstrated that social support functions as a buffer and can protect against negative outcomes. The following studies demonstrate that this protection also applies for rescue workers. Among firefighters, Tuckey and Hayward (2011) showed that camaraderie is an important buffer against psychological distress. With little support, people experience more psychological distress (Alexander and Klein, 2001). Baruch-Feldman *et al.* (2002) showed that in police officers supervisor support was especially related to satisfaction and productivity and not to burnout:

H3. Lower effective functioning in life tasks is expected to be associated with higher scores on psychological complaints and negative rumination about work.

Research shows that an accumulation of involvement in critical incidents makes the rescuer susceptible to the development of psychological symptoms (Dorresteijn *et al.*, 2003; Alexander and Klein 2001; Halpern and Maunder, 2011; de Boer *et al.*, 2011). For example, Monnier and coworkers (2002) showed that the accumulation of incidents is related to health outcomes, such as state-anger, anger-out and depression:

H4. Lower effective functioning in life tasks is expected to be associated with higher scores on negativism and somatization.

The literature on the relationship between personality and functioning in life tasks is rather scarce. Bramsen *et al.* (2000) found that former United Nations peacekeepers with high scores on negativism and psychopathology in the NVM test have more severe PTSD symptoms. This is in line with the general expectation of rescue work being associated with higher levels of problems in (mental) health mentioned above (Monnier *et al.*, 2002; Halpern and Maunder, 2011).

Method

Procedure and participants

Data collection for this study was incorporated in a standard procedure of diagnostic examination and psychological therapy for police officers with mental health problems in

Functioning of rescue workers in life tasks

their job. The present study was executed with 28 life task items and used a five-point Likert scale, with the following categories: very good – good – average – bad – very bad. After an informed consent was obtained, the test (in Dutch) was filled out online. The initial invitation was sent to 170 policemen working in urban areas in the Netherlands. Only 108 gave their permission to be included in this study, giving a response rate of 60%. This sample consisted of 62 male and 46 female participants. In total, 59 were did not have a relationship at time of inclusion. The average age of the policemen was 42.9 (SD: 10.14) years old. The youngest was 21 and the oldest 61 years old, and their tenure was an average of 21.4 (SD: 11.33) years, with a range of 2–46 years of tenure. Of the participants, 24 participants did not have children. The education level is mostly middle school level. A few participants (13 percent) have a managerial position at work.

Confirmatory factor analysis

To test the factorial validity of the LTT, we conducted a CFA. For this we used both AMOS and R, version 3.1.3, and the add-on package of Lavaan, version 0.5-20. The five-factor model that we postulated based on the literature was tested and compared with a one factor model. We checked whether the difference between the two models was significant and justified our further use of the five-factor model. For this, we used a χ^2 difference test ($\Delta \chi^2$) in R, using the Lavaan package. In interpreting the results of the factor analysis, we followed recommendations and interpretations by Byrne (2006). We will report goodness of fit indices (χ^2), comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardized mean square residual.

Cronbach's α

To assess the internal consistency of the scales, we calculated the Cronbach's α for each scale. Cronbach's α was computed using SPSS, version 23. The psychometric properties of the intended scales are presented in Table I.

We report the α , inter-item correlations and item-rest correlations; the latter two assess convergent validity. Cut-off scores for the former are r = 0.20 and for the latter r = 0.30. If deleting an item yields a substantially higher α , i.e. an increase of 0.05 or more, this will be reported.

Concurrent validity

In order to assess the concurrent validity of our questionnaire, we used Pearson's correlation coefficient r. In order to claim support for concurrent validity, we expect correlation coefficients that are medium in magnitude, i.e. between 0.30 and 0.40. Significance level was set at 0.05.

Other survey measures collected

The Dutch Organizational Stress Questionnaire (VOS-D; Bergers *et al.*, 1986) has been used in many studies to examine the effects of stress in the work environment. For an overview of other studies using these scales of the VOS-D see Bakker *et al.* (2015). The questionnaire uses a four (lack of social support scales and rumination scale) or five-point Likert scale (workload scale), ranging from "never" to "often" or something similar, depending on the type of question. The following sub-scales were chosen for this study.

Workload. This sub-scale contains nine questions; an item typical for this scale is "Do you have not enough time to finish the work?" The higher the score, the more work load is reported, indicating work overload, thus rating themselves less effective in their life tasks. Therefore, the expected direction for the relation with the different LTT scales is negative.

The original authors validated this instrument with middle class employees and reported an Functioning of overall α of 0.77.

Lack of social support. To measure social support two scales are used. One measures the lack of social support from colleagues and the other the lack of social support from supervisors. An example of a typical item is "How often do conflicts arise between your superior(s)/co-workers?" The higher the score, the greater the lack of support respondents report. Several studies in different professions demonstrate that social support can buffer the negative effects of work stress (Berg et al., 2006; Lechner et al., 2008). As with the workload scale, we expect the direction to be negative. The authors report an α of 0.83 for the lack of support from supervisor scale and an α of 0.75 for the lack of support scale from colleagues.

Psychological complaints. This scale has 11 questions about anxiety, irritation and anger during work. For administrative reasons, 21 respondents received a shorter version of the VOS-D that did not include this scale. Examples of items are "I feel anger" and "I feel lonely." The α for the psychological complaints scale was 0.80.

Negative rumination about work. There are four items about ruminating about work. An example is "are you worried that you might not be up to do your job?" The original α was 0.58 for the rumination scale, which is fairly low. For both psychological complaints and rumination, we expect the direction of the correlation with the LTT to be negative.

The NVM (Luteijn and Kok, 1985) is a Dutch personality questionnaire, based on the short version of the Minnesota Multiphasic Personality Inventory. We used the subscales of negativism and somatization. Many studies have been conducted researching using the NVM (Eurelings-Bontekoe et al., 2010).

Negativism. Negativism has items about passive avoidance behavior, feelings of dissatisfaction, resentment with daily life. A typical example is: "The life I lived was not the life that I imagined to live."

Somatization. It contains items related to vague physical complaints. Here, a typical example is "My stomach upsets me a lot."

Results

Cronbach's α and inter-item correlations

As can be seen in Table I, all the five life task scales had a reliable Cronbach's α . The α is varied between 0.62 and 0.92. One of the scales has acceptable reliability (<0.70, but > 0.60), for the other four reliability was good (≥ 0.70). Next, we inspected the inter-item correlation matrix and the item-rest correlation matrix, to assess item convergent validity per scale. The mean scores of the items were all in the same range; no outliers were spotted. In Table I, the items with a low inter-item correlation are marked. We removed these items from the LTT and excluded these from subsequent analyses.

Confirmatory factor analysis

The five-factor model noted a $\chi^2(125)$ of 270.6. Thus, the five-factor model shows a reasonable fit, but not yet completely adequate. The one-factor model performed worse on all parameters than the five-factor model (see Table II).

Subsequently, the $\Delta \chi^2$ of 301.985 was significant at the 0.001 level, making our fivefactor model a significantly better fit on the observed data than the one factor model. Finally, our CFA suggested testing an adjusted five factor model, with two items removed, see list "items of the LTT" for more details about these items. The difference with the one factor model with this adjusted five factor model was larger than for the full five factor model: $\Delta \chi^2 = 381.048$. The adjusted model shows more adequate fit measures, with CFI now reaching above 0.90 (0.904) and RMSEA at 0.070 and SMRS at 0.078. We therefore choose to proceed with the adjusted model below.

rescue workers in life tasks

Concurrent validity

Table III shows the correlations between the LTT scales and work overload, social support, psychological complaints, rumination and personality. As expected, workload (*H1*) had a significant correlation with maintaining mental health (r = -0.27, p < 0.01) and maintaining positivity (r = -0.28, p < 0.01). Lack of support (*H2*) correlated with social life (r = -0.25, p < 0.01) for colleagues, maintaining mental health (r = -0.20, p < 0.05 for supervisors; r = -0.20, p < 0.05 for colleagues). For household and finance only the correlation for colleagues turned out to be significant (r = -0.26, p < 0.05). The last two scales of the LTT, giving meaning and maintaining positivity correlated with the lack of support scales, r = -0.34, p < 0.01 for supervisors, r = -0.32, p < 0.01 for colleagues and r = -0.50, p < 0.01 for supervisors, r = -0.41, p < 0.01 for colleagues, respectively, indicating a small to medium effect for these variables.

For *H3*, negative rumination was correlated with three scales of the LTT. The correlations with maintaining mental health (r = -0.32, p < 0.01) and maintaining positivity (r = -0.48, p < 0.01) were moderate, the correlation with giving meaning was somewhat lower (r = -0.20, p < 0.05). Policemen who experience more psychological complaints feel less effective in maintaining an optimistic outlook on the near future. They feel that they have difficulties in attributing meaning to what they do and that they are less effective in managing their own mental health.

In line with H4, Negativism correlated with lower effectiveness on all life tasks, except social life. Somatization showed negative correlations with efficacy and maintaining mental health (r = -0.50, p < 0.01) and maintaining positivity (r = -0.40, p < 0.01). As hypothesized, this indicates that people who report a higher level of somatic complaints, report on average less effectiveness in their life tasks. Having somatic complaints also correlates, although less strongly, with lower effectiveness in household and finance (r = -0.25, p < 0.05) and giving meaning (r = -0.23, p < 0.05).

In general, the above results can be interpreted as good indications of concurrent validity for four of the five LTT scales (see also Table III). The concurrent validity of the social life scale was weakly supported; only one out of six of the expected correlations was significant here.

Table II.	Model	Description	χ^2 (df)	$\Delta \chi^2$	CFI	SMRS	RMSEA	RMSEA 90% CI
Fit measures for the one-factor model, five-factor model and the adjusted five-factor model	CFA life tasks CFA adjusted		· · /			0.116 0.089 0.078 c details.	0.148 0.078 0.070 ***p < 0.00	0.135; 0.162 0.061; 0.094 0.050; 0.089

						-
21.19 17.44 3.09 1.85 2.17 2.88	7.81 9.78 0.64 0.62 0.39 0.58	-0.12 -0.02 -0.18 -0.14 -0.25** -0.09	-0.25^{**} -0.50^{**} -0.27^{**} -0.20^{*} -0.20^{*} -0.32^{**}	-0.33^{**} -0.23^{*} -0.02 -0.14 -0.26^{*} -0.16 -0.29^{*}	-0.29** -0.23* -0.02 -0.34** -0.32** -0.20*	-0.31^{**} -0.40^{**} -0.28^{**} -0.50^{**} -0.41^{**} -0.48^{**} -0.11
L	7.44 3.09 1.85 2.17	7.449.783.090.641.850.622.170.392.880.58	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$

IJES

Discussion

The goal of the present study was to develop a LTT, which contributes to the diagnosis of rescue workers rescue workers and helps in protecting against the eroding effect of cumulative confrontation with adversities.

The results show that the LTT is a valid test for the following life tasks domains: maintaining mental health, household and finance, giving meaning and maintaining positivity. These four scales have negative correlations with measures of work pressure, stress at work, social support, negativity and somatization. We did not find consistent support for the concurrent validity of the social life scale. Only one of the expected correlations was confirmed, providing little evidence for the validity of this scale. Preliminary analysis showed that this scale did not violate any assumptions in terms of distribution, nor did it show any important outliers in the distribution. It is difficult to explain why this scale failed to produce the expected results, whereas all the other scales did. It could be that overall, social life is not as much affected as one would expect based on the literature. The one correlation that turned out to be significant was lack of support from colleagues, which is related to the quality of the social network at work.

Limitations and suggestion for research

The relatively small size of the test group (police officers exclusively) is a limitation of this study. Further research has to be done among other types of rescue workers, such as firemen, ambulance workers, veterans, in order to assure the generalizability of the current results. Another point is that we included only police officers who we registered for psychological therapy, which may have been more prone to certain behavioral traits as compared with the general population of police officers.

Since test development is an on-going process, we emphasize the need for further work on the LTT. It is clear from this study that the social dimension (family relationships and social life) of private life functioning requires further attention in future versions of the LTT, both in terms of items/scales and in terms of establishing concurrent validity, especially when the scales are used in conjunction with (neuro-)physiological measures, such as suggested by Koch et al. (2017).

Practical implications

Using the result presented in this paper can provide immediate insight into life tasks which are performed well and uncover life task problems in need of support. The effectiveness in life tasks is an important buffer to the impact of rescue work. Skills in maintaining life tasks should be trained in regular job training to reduce the risk that life tasks are neglected by both new rescue workers and their management. Moreover, it gives rescue workers mastery of their personal life, makes self-management stronger, as well as gives feelings of confidence and positive energy (Bandura, 2001; Allen et al., 2011). Elbogen et al. (2012) emphasize the importance of proper integration of mental health tools in the personal life for rescue workers, like this one. They suggest the development of an assessment tool, which pays attention to functioning in private life. Early recognition of a decline in effectiveness of life tasks can be used as an early warning signal in decline of well-being. In situations of low functioning on life tasks intensive trauma therapy is undesirable.

Acknowledgments

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Also, informed consent was obtained from all individual participants included in the study. For this research project no additional funding was received. Also, the above stated authors

Functioning of in life tasks

certify that they have no affiliations or involvement in any organization or entity with any financial interest of non-financial interest in the subject matter or materials discussed in this manuscript. The research is independent of origin.

References

- Abelsson, A. (2018), "First response emergency care-experiences described by fire fighters", International Journal of Emergency Services, doi: 10.1108/IJES-05-2018.
- Adler, A. (1912), The Neurotic Character, Alfred Adler Institute, San Francisco, CA.
- Alexander, D.A. and Klein, S. (2001), "Ambulance personnel and critical incidents: impact of accident and emergency work on mental health and emotional well-being", *The British Journal of Psychiatry*, Vol. 178 No. 1, pp. 76-81.
- Allen, E.S., Rhoades, G.K., Stanley, E.M. and Markman, H.J. (2011), "On the home front: stress for recently deployed army couples", *Family Process*, Vol. 50 No. 2, pp. 235-247.
- Bailey, W.C., Woodiel, D.K., Turner, M.J. and Young, J. (1998), "The relationship of financial stress to overall stress and satisfaction", *Personal Finances and Worker Productivity*, Vol. 2 No. 2, pp. 198-206.
- Bakker, A.H.M., Gaillard, A.W.K., van Veldhoven, M.J.P.M. and Hertogs, R. (2015), "The impact of critical incidents on mental health: an exploratory pilot study into the moderating effects of social support on the impact of adverse events in Dutch rescue workers", *Policing*, doi: 10.1093/ police/pav038.
- Bandura, A. (2001), "Social cognitive theory: an agentic perspective", Annual Review of Psychology, Vol. 52, pp. 1-26, doi: 10.1146/annurev.psych.52.1.1.
- Baruch-Feldman, C., Brondolo, E., Ben-Dayan, D. and Schwartz, J. (2002), "Sources of social support and burnout, job satisfaction, and productivity", *Journal of Occupational Health Psychology*, Vol. 7 No. 1, pp. 84-93.
- Benight, C.C. and Harper, M.L. (2002), "Coping self-efficacy perceptions as a mediator between acute stress response and long-term distress following natural disasters", *Journal of Traumatic Stress*, Vol. 15 No. 3, pp. 177-186.
- Berg, T.I.J., van den Landeweerd, J.A., Tummers, G.E.R. and Merode, G.G. (2006), "A comparative study of organizational characteristics, work characteristics and nurses' psychological work reactions in a hospital and nurses home setting", *International Journal of Nursing Studies*, Vol. 43 No. 4, pp. 491-505.
- Bergers, G.P.A., Marcelissen, F.H.G. and de Wolff, Ch. J. (1986), VOS-D Vragenlijst Organisatiestress-D: Handleiding (VOS-D Questionnaire Organizational Stress D: Instructor's Manual), Stressgroep Publicatie (Stressgroup Publication), Nijmegen.
- Bianchi, S.M., Casper, L. and King, R.B. (2005), Work, Family, Health and Well-Being, Lawrence Erlbaum Associates, Mahwah, NJ.
- Bramsen, I., Dirkzwager, A.J.E. and van der Ploeg, M.A. (2000), "Pre-deployment personality traits and exposure to trauma as predictors of post-traumatic stress symptoms: a prospective study of former peace keepers", *International Journal of Psychiatry*.
- Byrne, B.M. (2006), Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming, 2nd ed., Routledge, New York, NY.
- Calhoun, L.G. and Tedeschi, R. (2006), "The foundations of posttraumatic growth: an expanded framework", in Calhoun, L.G. and Tedeschi, R.G. (Eds), *Handbook of Posttraumatic Growth: Research and Practice*, Erlbaum, Mahwah, NJ, pp. 1-23.
- Cantor, N., Kemmelmeier, M. and Prentice, D.A. (2002), "Life task pursuit in social groups: balancing self-exploration and social integration", *Self and Identity*, Vol. 1, pp. 177-184.
- Caprara, G.V. and Steca, P. (2005), "Affective and social self-regulatory beliefs as determinants of positive thinking and happiness", *European Psychologist*.
- Chae, M.H. and Boyle, D.J. (2013), "Police suicide: prevalence, risk and protective factors", *International Journal of Policing*, Vol. 36 No. 1, pp. 91-118, doi: 10.1108/13639511311302498.

IJES

- Cheavens, J.S., Feldman, D.B., Gum, A., Michael, S.T. and Snyder, C.R. (2006), "Hope therapy in a community sample: a pilot investigation", *Social Indicators Research*, Vol. 77 No. 1, pp. 61-78.
- Cicognani, E., Pietrantoni, L., Palestini, L. and Prati, G. (2009), "Emergency workers' quality of life: the protective role of sense of community, efficacy beliefs and coping strategies", *Social Indicators Research*, Vol. 94 No. 3, pp. 449-463.
- de Boer, J., Lok, A., van 't Verlaat, E., Duivenvoorden, H.J., Bakker, A.B. and Smit, B.J. (2011), "Work-related critical incidents in hospital-based health care providers and the risk of post-traumatic stress symptoms, anxiety and depression: a meta-analysis", *Social Science & Medicine*, Vol. 73 No. 2, pp. 316-326.
- Dorresteijn, S.M., van der Ploeg, E. and Kleber, R. (2003), "Critical incidents and chronic stressors at work: their impact on forensic doctors", *Journal of Occupational Health Psychology*.
- Elbogen, E.B., Johnson, S.C., Wagner, H.R., Newton, V.M. and Beckham, J.C. (2012), "Financial wellbeing and post-deployment adjustment among Iraq and Afghanistan war veterans", *Military Medicine*, Vol. 177 No. 6, pp. 669-675.
- Eriksen, C.A. and Kecklund, G. (2007), "Sleep, sleepiness and health complaints in police officers: the effects of a flexible shift system", *Industrial Health*, Vol. 45 No. 2, pp. 279-288.
- Eurelings-Bontekoe, E.H.M., Luyten, P., Remijsen, M. and Koelen, J. (2010), "The relationship between personality organization as assessed by theory-driven profiles of the Dutch short form of the MMPI and self-reported features of personality organization", *Journal of Personality Assessment*.
- Evans, R., Pistrang, N. and Billings, J. (2013), "Police officers' experience of supportive and unsupportive social interactions following traumatic incidents", *European Journal of Psychotraumatology*, Vol. 4 No. 1, p. 19696, doi: 10.3402/ejpt.v4i0.19696.
- Fredrickson, B.L. (2009), Positivity, Crown, New York, NY.
- Gerris, J.R.M. and Vermulst, A.A. (2009), "Managing multiple roles, personality, stress, work-family interference in dual career couples", *Journal of Individual Differences*, Vol. 30 No. 1, pp. 6-19.
- Grant, A.M. and Campbell, E.M. (2007), "Doing good, doing harm, being well and burning out: The interactions of perceived prosocial and antisocial impact in service work", *Journal of Occupational and Organisational Psychology*, Vol. 80 No. 4, pp. 665-691.
- Halpern, J. and Maunder, R.G. (2011), "Acute and chronic workplace stress in emergency medical technicians and paramedics: chapter from", in Langan-Fox, J. and Cooper, C.L. (Eds), *Handbook* of Stress in the Occupations, Edward Elgar, Cheltenham, pp. 135-160.
- Harvey, S.B., Milligan-Saville, J.S., Paterson, H.M., Harkness, E.L., Marsh, A.M., Bobson, M., Kemp, R. and Bryan, R.A. (2016), "The mental health of firefighters: an examination of the impact of repeated trauma exposure", *Australian and New Zealand Journal of Psychiatry*, Vol. 50 No. 7, pp. 649-658, doi: 10.1177/0004867415615217.
- Heinrichs, M., Wagner, D., Schoch, W., Soravia, L.M., Hellhammer, D.H. and Ehlert, U. (2005), "Predicting posttraumatic stress symptoms from pretraumatic risk factors: a 2-year prospective follow-up study in firefighters", *American Journal of Psychiatry*, Vol. 162 No. 12, pp. 2276-2286.
- Heshmati, R., Hoseinifar, J., Rezaeinejad, S. and Miri, M. (2010), "Sensation seeking and marital adjustment in handicapped veterans suffering from PTSD", *Procedia-Social and Behavioral Sciences*, Vol. 5, pp. 1783-1787.
- Houtman, I.L.D., Jettinghoff, K., Brenninkmeijer, V. and van den Berg, R. (2005), De Politie vijf Jaar Later: Werkstress en Het Effect van Maatregelen (Dutch Police Organization Five Years Later: Workstress and the Effect of Policy), TNO, Hoofddorp.
- Huber, M.A. (2014), "Towards a new, dynamic concept of health, its operationalization and use in public health and healthcare, and in evaluating health effects of food", doctoral thesis, School for Public Health and Primary Care, Maastricht University, Maastricht.
- Koch, S.B.J., Klumpers, F., Zhang, W., Hashemi, M.M., Kaldewaij, R., van Ast, V.A., Smit, A.S. and Roelofs, K. (2017), "The role of automatic defensive responses in the development of posttraumatic stress symptoms in police recruits: protocol of a prospective study", *European Journal of Psychotraumatology*, Vol. 8 No. 1, available at: www.tandfonline.com/action/ showCitFormats?doi=10.1080%2F20008198.2017.1412226

Functioning of rescue workers in life tasks

- Lechner, L., Steinvoorte, T. and Näring, G. (2008), "Emotieregulatie en burnout bij ziekenverzorgenden (Emotion regulation and burnout in nurses)", *Gedrag en Organisatie (Behavior and Organization)*, Vol. 21 No. 2, pp. 137-149.
- Leppma, M., Mnatsakanova, A., Sarkisian, K., Scott, O., Adjeroh, C., Andrew, M.E., Violanti, J.M. and Mc Canlies, E.C. (2018), "Stressful events and posttraumatic growth among police officers: a cross-sectional study", *Journal of Stress and Health*, doi: 10.1002/smi.2772.
- Luteijn, F. and Kok, A.P. (1985), *Herziene Handleiding NVM (Revised Manual NVM)*, Swerts & Zeitlinger, Lisse.
- Menard, K.S. and Arter, M.L. (2013), "Police officer alcohol use and trauma symptoms: associations with critical incidents, coping, and social stressors", *International Journal of Stress Management*, Vol. 20 No. 1, pp. 37-56.
- Monnier, J., Cameron, R.P., Hobfoll, S.E. and Gribble, J.R. (2002), "The impact of resource loss and critical incidents on psychological functioning in fire-emergency workers: a pilot study", *International Journal of Stress Management*, Vol. 9 No. 1, pp. 11-29.
- Ogińska-Bulik, N. and Zadworna-Cieślak, M. (2018), "The role of resiliency and coping strategies in occurrence of positive changes in medical rescue workers", *International Emergency Nursing*, Vol. 39, July, pp. 40-45, doi: 10.1016/j.ienj. 2018.02.004, available at: www.researchgate.net/ publication/323172603_The_role_of_resiliency_and_coping_strategies_in_occurrence_of_ positive_changes_in_medical_rescue_workers
- Penner, L.A., Dovidio, J.F., Piliavin, J.A. and Schroeder, D.A. (2005), "Prosocial behavior: multilevel perspectives", Annual Review of Psychology, Vol. 56 No. 2005, pp. 365-392.
- Prati, G., Pietrantoni, L. and Cicognani, E. (2010), "Self-efficacy moderates the relationship between stress appraisal and quality of life among rescue workers", *Anxiety, Stress, & Coping*, Vol. 23 No. 4, pp. 463-470.
- Regehr, C., Hill, J., Knott, T. and Sault, B. (2003), "Social support, self-efficacy and trauma in new recruits and experienced firefighters", *Stress and Health: Journal of the International Society for the Investigation of Stress*, Vol. 19 No. 4, pp. 189-193.
- Robyn, R.M., Robyn, K., Shakespeare-Finch, J. and Gavan, P. (2011), "Adaptive and maladaptive coping strategies predict post-trauma outcomes in ambulance personnel", *Traumatology*, Vol. 17 No. 4, pp. 25-34.
- Schok, M.L., Kleber, R.J., Elands, M. and Weerts, J.M. (2008), "Meaning as a mission: a review of empirical studies on appraisals of war and peacekeeping experiences", *Clinical Psychology Review*, Vol. 28 No. 3, pp. 357-365.
- Shepherd, L. and Wild, J. (2014), "Emotion regulation, physiological arousal and PTSD symptoms in trauma-exposed individuals", *Journal of Behavior Therapy and Experimental Psychiatry*, Vol. 45 No. 3, pp. 360-367, doi: 10.1016/j.jbtep.2014.03.00.
- Shreffler, K.M., Meadows, M.P. and Davis, K.D. (2011), "Firefighting and fathering: work-family conflict, parenting stress and satisfaction with parenting and child behavior", *Fathering*, Vol. 9 No. 2, pp. 169-188.
- Siffaki-Pistola, D., Vaasilici-Eirini, C., Sofia-Aikaterini, V., Melidoniotis, E. and Pistolla, G. (2017), "Who is going to the rescue workers? Post-traumatic stress disorder among rescue workers operating in Greece during the European refugee crises", *Journal of Social Psychiatric Epidemiology*, Vol. 52 No. 1, pp. 45-54, doi: 10.1007/s00127-016-1302-8.
- Slotje, P., Twisk, J.W.R., Smidt, N., Huizink, A.C., Witteveen, A.B., van Mechelen, W. and Smid, T. (2007), "Health-related quality of life of firefighters and police officers 8.5 years after the air disaster in Amsterdam", *Quality of Life Research*, Vol. 16 No. 5, pp. 239-252.
- Sonnentag, S. and Grant, A.M. (2012), "Doing good at work feels good at home, but not right away: when and why perceived prosocial impact predicts positive affect", *Personnel Psychology*, Vol. 65 No. 3, pp. 495-530.
- Stetz, T.A., Stetz, M.C. and Bliese, P.D. (2006), "The importance of self-efficacy in the moderating effects of social support on stressor-strain relationships", Work & Stress, Vol. 20 No. 1, pp. 49-59.

IJES

- Tedeschi, R.G. and Calhoun, L.G. (2006), "Expert companions: posttraumatic growth in clinical practice", in Calhoun, L.G. and Tedeschi, R.G. (Eds), Handbook of Posttraumatic Growth: Research and Practice, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 291-310.
- Tuckey, M.R. and Hayward, R. (2011), "Global and occupation-specific emotional resources as buffers against the emotional demands of fire-fighting", Applied Psychology, Vol. 60 No. 1, pp. 1-23, doi: 10.1111/j.1464-0597.2010.00424.x.
- Vila, B. (2006), "Impact of long work hours on police officers and the communities they serve", American Journal of Industrial Medicine, Vol. 49 No. 11, pp. 972-980.
- Wang, P., Lawler, J.J., Walumbwa, F.O. and Shi, K. (2004), "Work-family conflict and job withdrawal intentions: the moderating effect of cultural differences". International Journal of Stress Management, Vol. 11 No. 4, pp. 392-412.
- Yasien, S., Nasir, J.A. and Shaheen, T. (2016), "Relationship between psychological distress and resilience in rescue workers", Saudi Medical Journal, Vol. 37 No. 7, pp. 778-782, doi: 10.155371smj.2016.7.15004.

Further reading

- Bartone, P. (2004), "Increasing resiliency through shared sense making: building hardiness in groups". in Paton, D., Violanti, J., Dunning, C. and Smith, L.M. (Eds), Managing Traumatic Stress Risk: A Proactive Approach, Charles C. Thomas, Springfield, IL, pp. 129-140.
- Calhoun, L.G. and Tedeschi, R.G. (2014), Handbook of Posttraumatic Growth: Research and Practice, Routledge, London.
- Heshmati, A. (2007), "The relationship between income inequality, poverty and globalization", in Nissanke, M. and Thorbecke, E. (Eds), The Impact of Globalization on World's Poor, Palgrave Macmillan, Basingstoke, pp. 59-93.
- Sonnentag, S., Mojza, E.J., Binnewies, C. and Scholl, A. (2008), "Being engaged at work and detached at home: a week level study on work engagement, psychological detachment and affect", Journal of Work, Health and Organizations, Vol. 22 No. 3, pp. 257-270.
- van der Kolk, B.A. (2003). Psychological Trauma, American Psychiatric Publisher, Massachusetts Mental Health Center, Harvard Medical School, Boston, MA.

Corresponding author

Heilwine Bakker can be contacted at: hbakker@balans-en-impuls.nl

For instructions on how to order reprints of this article, please visit our website: www.emeraldgrouppublishing.com/licensing/reprints.htm Or contact us for further details: permissions@emeraldinsight.com

Functioning of rescue workers in life tasks