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## The functioning of rescue workers in life tasks

Bakker, A.H.M.; van Veldhoven, Marc; Gaillard, A.W.K.; Hertoghs, Remy; Feenstra, Margot

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### **The Functioning of Rescue Workers in Life Tasks: Development of a Test**

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Life Tasks Test for Rescue Workers

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**The Functioning of Policemen in Life Tasks: Development of a Test**

[[Author names withheld for masked review purposes]]

Life Tasks Test for Rescue Workers

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International Journal of Emergency Services

## Life Tasks Test for Rescue Workers

**Abstract**

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.

This paper presents a new questionnaire for measuring the functioning of rescue workers in life tasks outside of work. The internal consistency, factor structure and concurrent validity of this Life Tasks Test (LTT) were examined in a group of 108 policemen. Results demonstrate that 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 alpha was acceptable for one scale ( $> 0.60$ ) and good for the other four ( $> 0.70$ ). The hypothesized five-factor structure of the LTT was corroborated in a confirmatory factor analysis (CFA).

Concurrent validity was examined by comparing the scores on the LTT with two established questionnaires, one for personality characteristics and one for work characteristics and work stress. All LTT scales, with the exception of *Social life*, showed significant correlations with social support, workload and personality.

**Keywords:** Life tasks, rescue workers, mental health, personality, work stress

Life Tasks Test for Rescue Workers

## The Functioning of Policemen in Life Tasks: Development of a Test

### 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.

Recent research shows that an accumulation of involvement in critical incidents makes the rescue worker susceptible for the development of psychological symptoms (Monnier, 2002; Dorresteyjn et al, 2003; Halpern & Maunder, 2011; 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 & Kecklund, 2007). Most studies emphasize the risks of rescue worker sacrificing their health and private life, for recent examples see the studies by Harvey (2016) and Siffaki-Pistola (2016). 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 (2018) showed posttraumatic growth (PTG) in policemen after a disaster.

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**LIFE TASKS**

In the present study we focussed 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), Chae and Boyle (2013) show 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, 2002; Bandura, 2001).

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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) conclude 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, 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) show 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 of Bailey, Woodiel, Turner and Young (1998) on mental health care professionals, financial stress is responsible for 30% 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



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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 (Oginska-Bullik & Zadwarna-Cieslak, 2018). Additionally, engaging in positive activities buffers against negative feelings and beliefs about self-efficacy (Caprara & Steca, 2005). Helping others is an experience of success that can boost feelings of competence (Grant & 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 & Tedeschi 2006). In a study under rescue workers (Yasien et. al, 2016) especially show that religion, sense of community and sense of importance helping others is 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 diagnose problem areas of the client by examining whether they function well in their life tasks.

## Life Tasks Test for Rescue Workers

This concept of life tasks was first introduced by Adler (1912) and later Cantor et al., (2002) developed a life task test based on this theory. As far as we know there is no life task test 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, Lawler, Walumbwa & Shi, 2004) and the Post-Traumatic Growth test (PTG, Tedeschi & Calhoun, 2006) pay limited attention to the functioning in private life. With the Life Tasks Test 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 the 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.

We encountered some problems in the development of a scale for measuring relationships in family life. The research group was too small to distinguish between the many different options of family compositions. We decided to omit this 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*. The list of items is presented in Table 1 and the psychometric properties in Table 2.

Insert Table 1 and 2 about here

### Testing concurrent validity

## Life Tasks Test for Rescue Workers

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

Lower effective functioning in life tasks is expected to be associated with:

*1) 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, 2009; Slotje, 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 hours and lack of sleep were associated with greater work-to-family conflicts. Thus, job stress appears to cause more work-family conflicts and poorer health and well-being for both individual and family Allen et al., 2000; Bianchi et al., 2005; Gerris & Vermulst, 2009).

*2) Reduced social support from colleagues and direct supervisor.*

Prati and Pietrantoni (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, Tukey & Hayward (2011) showed that camaraderie is an important buffer against psychological distress. With little support, people experience more psychological distress (Alexander & Klein, 2001). Baruch-Feldman et al. (2012) showed that in police

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officers supervisor support was especially related to satisfaction and productivity and not to burnout.

### *3) Higher scores on psychological complaints and negative rumination about work*

Recent 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 & Klein 2001; Halpern & Maunder, 2011; 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.

### *4) 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, 2002; Halpern & 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 their job. The present study was executed with 28 items and used a 5-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 on line. The initial invitation was sent to 170 policemen working in urban areas in the Netherlands.

## Life Tasks Test for Rescue Workers

Only 108 gave their permission to be included in this study. This sample consisted of 62 male and 46 female participants. 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 through 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%) have a managerial position at work.

### *Confirmatory factor analysis*

To ensure the factorial validity of the LTT, we conducted a Confirmatory Factor Analysis (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 Chi<sup>2</sup> 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 ( $\chi^2$ ), Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA) and the Standardized Mean Square Residual.

### *Cronbach's Alpha*

To assess the internal consistency of the scales, we calculated the Cronbach's alpha for each scale. Cronbach's alpha was computed using SPSS, version 23. The psychometric properties of the intended scales are presented in Table 2.

## Life Tasks Test for Rescue Workers

We report the alpha, 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 alpha, 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, Marcelissen & De Wolff, 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 9 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 overall alpha of 0.77.

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3 *Lack of social support.* To measure social support two scales are used. One  
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5 measures the lack of social support from colleagues and the other the lack of social  
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7 support from supervisors. An example of a typical item is 'How often do conflicts arise  
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9 between your superior(s)/ co-workers?' The higher the score, the greater the lack of  
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11 support the respondents report. Several studies in different professions demonstrate  
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13 that social support can buffer the negative effects of work stress (Berg et al., 2006;  
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15 Lechner et. al., 2008). As with the Workload scale, we expect the direction to be  
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17 negative. The authors report an alpha of 0.83 for the lack of support from supervisor  
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19 scale and an alpha of 0.75 for the lack of support scale from colleagues.  
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24 *Psychological complaints.* This scale has 11 questions about anxiety, irritation and  
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26 anger during work. For administrative reasons, 21 respondents received a shorter  
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28 version of the VOS-D that did not include this scale. Examples of items are 'I feel  
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30 anger', 'I feel lonely'. The alpha for psychological complaints was 0.80.  
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35 *Negative rumination about work.* There are four items about ruminating about work.  
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37 An example is 'are you worried that you might not be up to do your job?' For both  
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39 Psychological complaints and Rumination, we expect the direction of the correlation  
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41 with the LTT to be negative. Here, the original alpha was 0.58 for the rumination  
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43 scale, which is fairly low.  
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48 The *NVM* (Luteijn & Kok, 1985) is a Dutch personality questionnaire, based on the  
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50 short version of the Minnesota Multiphasic Personality Inventory (MMPI). We used  
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52 the subscales of Negativism and Somatization. Many studies have been conducted  
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54 researching the *NVM* (Eureling et al., 2010).  
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## Life Tasks Test for Rescue Workers

*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*. Contain items related to vague physical complaints. Here, a typical example is 'My stomach upsets me a lot'.

## RESULTS

### *Cronbach's alpha and inter-item correlations*

As can be seen in Table 2, all the five scales had a reliable Cronbach's alpha. The alpha's varied between .62 and .92. One of the scales has acceptable reliability ( $< .70$ , but  $> .60$ ), for the other four reliability was good ( $\geq .70$ ). 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 2, the items are marked with a low inter-item correlation. 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. Although the one-factor model performed worse on all parameters than the five-factor model (see Table 3).

Subsequently, the  $\Delta\chi^2$  of 301.985 was significant at the .001 level, making our five-factor 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



## Life Tasks Test for Rescue Workers

removed, see table 1 for more details about the items. The difference of 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 .90 (.904) and RMSEA at .070 and SMRS at .078. We therefore choose to proceed with the adjusted model below.

***Insert Table 3 about here***

***Concurrent validity***

Table 4 shows the correlations between the LTT scales and work overload, social support, psychological complaints and rumination and personality. As expected, Workload (hypothesis 1) had a significant correlation with *Maintaining mental health* ( $r = -.27, p < .01$ ) and *Maintaining positivity* ( $r = -.28, p < .01$ ). Lack of support (hypothesis 2) correlated with *Social life* ( $r = -.25, p < .01$ ) for colleagues, *Maintaining mental health* ( $r = -.20, p < .05$  for supervisors;  $r = -.20, p < .05$  for colleagues). For *Household and finance* only the correlation for colleagues turned out to be significant ( $r = -.26, p < .05$ ). The last two scales of the LTT, *Giving meaning* and *Maintaining positivity* correlated with the lack of support scales,  $r = -.34, p < .01$  for supervisors,  $r = -.32, p < .01$  for colleagues and  $r = -.50, p < .01$  for supervisors,  $r = -.41, p < .01$  for colleagues, respectively, indicating a small to medium effect for these variables.

For hypothesis 3, Negative rumination was correlated with three scales of the LTT. The correlations with *Maintaining mental health* ( $r = -.32, p < .01$ ) and *Maintaining positivity* ( $r = -.48, p < .01$ ) were moderate, the correlation with *Giving meaning* was somewhat lower ( $r = -.20, p < .05$ ). 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.

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In line with hypothesis 4, Negativism correlated with lower effectiveness on all life tasks, except *Social life*. Somatization had negative correlations with efficacy on *Maintaining mental health* ( $r = -.50, p < .01$ ) and *Maintaining positivity* ( $r = -.40, p < .01$ ). 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* ( $r = -.25, p < .05$ ) and *Giving meaning* ( $r = -.23, p < .05$ ).

In general, the above results can be interpreted as good indications of concurrent validity for four of the five LTT scales (see also Table 4). The concurrent validity of the *Social life* scale was weakly supported; only one out of six of the expected correlations was significant.

**Insert Table 4 about here**

## DISCUSSION

The goal of the present study was to develop a life tasks test, which contributes to the diagnosis of 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, Maintaining positivity*. These four scales have negative correlations with personality and work-related 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

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3 outliers in the distribution. It is difficult to explain why this scale failed to produce the  
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5 expected results, whereas all the other scales did. It could be that overall, social life  
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7 is not as much affected as one would expect based on the literature. The one  
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9 correlation that turned out to be significant was lack of support from colleagues,  
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11 which is related to the quality of the social network at work.  
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### **Limitations and suggestion for research**

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18 The relatively small size of the test group (police officers exclusively) is a limitation of  
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20 this study. Further research has to be done among other rescue workers, such as  
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22 firemen, ambulance workers, veterans, in order to assure the generalizability of the  
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24 current results. Another point is that we included only police officers, who we  
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26 registered for psychological therapy, which may have been more prone to certain  
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28 behavioral traits as compared with the general population of police officers.  
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33 Since test development is an on-going process, we emphasize the need for further  
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35 work on the LTT. It is clear from this study that the social dimension (family  
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37 relationships, social life) of private life functioning requires further attention in future  
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39 versions of the LTT, both in terms of items/scales and in terms of establishing  
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41 concurrent validity, especially when they are used in conjunction with (neuro-)  
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43 physiological measures, such as suggested by Koch et al.(2017).  
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### **Practical implications**

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51 This research provides immediate insight into the life tasks, which are performed well  
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53 and contribute to a better mental health and uncover problems in need of support.  
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55 The effectiveness in life tasks is an important buffer to the impact of rescue work.  
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57 Skills in maintaining life tasks should be trained in regular job training to reduce the  
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59 risk that life tasks are neglected. Moreover, it gives rescue workers mastery of their  
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## Life Tasks Test for Rescue Workers

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3 personal life, makes self-management stronger, as well as gives feelings of  
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5 confidence and positive energy (Bandura, 2011; Allen et al., 2011). Elbogen et al.  
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7 (2012) emphasize the importance of proper integration of mental health tools in the  
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9 personal life for rescue workers. They suggest the development of an assessment  
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11 tool, which pays attention to functioning in private life. Early recognizing a decline of  
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13 effectiveness of life tasks can be used as an early warning signal in decline of well-  
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15 being. In situations of low functioning on life tasks intensive trauma therapy is  
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17 undesirable.  
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## Life Tasks Test for Rescue Workers

**Table 1. Items of the Life Task Test (LTT)**

<b><i>Social life</i></b>
I can maintain friendships
I can give support and sympathy in my friendships
I can receive support and sympathy in my friendships *
I can maintain my social network
<b><i>Maintaining mental health</i></b>
I can deal with my emotions effectively
I can deal with stress effectively
I can deal with adversity effectively
I can deal with shocking events
I am effective in searching for sources of relaxation and energy
<b><i>Household and finance</i></b>
I can manage money effectively
I can build a stable romantic relationship *
I can run the household chores effectively
I can manage the financial administration effectively
<b><i>Giving meaning</i></b>
I can pursue an education or a course with success
I believe that my work is of significance in a larger whole
I try to learn from the things that I experience in life
I contribute in improving difficult situations
I feel relevant in my life
<b><i>Maintaining positivity</i></b>
The disturbing incidents I experience at work make it hard to stay positive
The disturbing incidents I experience at work make it hard to stay vibrant and hopeful in life

\* removed after confirmatory factor analysis

## Life Tasks Test for Rescue Workers

Table 2. Means, standard deviations and intercorrelations and Cronbach's alpha (on the diagonal) of the LTT scales (N = 108).

	Mean	SD	1	2	3	4	5
1 Social life	3.70	.664	.822				
2 Maintaining mental health	3.15	.688	<b>.37**</b>	.777			
3 Household and finance	3.77	.598	<b>.31**</b>	<b>.44**</b>	.753		
4 Giving meaning	3.75	.496	<b>.32**</b>	<b>.39**</b>	<b>.24**</b>	.615	
5 Maintaining positivity	3.10	1.220	.16	<b>.37**</b>	.13	<b>.31**</b>	.922

\*\*  $p < .01$

Table 3. Fit measures for the one-factor model, five-factor model, and the adjusted five-factor model.

Model	Description	$\chi^2$ (df)	$\Delta\chi^2$	CFI	SMRS	RMSEA	RMSEA 90% CI
CFA Life Tasks	One factor model	572.598(170)	-	.454	.116	.148	.135; .162
CFA Life Tasks	Five factor model	270.613(161)	301.985**	.860	.089	.078	.061; .094
CFA Adjusted	Five factor model*	191.550(125)	381.048**	.904	.078	.070	.050; .089

\* Adjusted model with two items removed. See text for details.

\*\*  $p < .001$ ,  $n = 108$ .

## Life Tasks Test for Rescue Workers

**Table 4. Means, standard deviations and correlations of the LTT-scales with personality, workload, social support, ruminating and psychological complaints (N = 108).**

	Mean	SD	1	2	3	4	5
Negativism	21.19	7.81	-.12	-.25**	-.33**	-.29**	-.31**
Somatization	17.44	9.78	-.02	-.50**	-.23*	-.23*	-.40**
Work load	3.09	.64	-.18	-.27**	-.02	-.02	-.28**
Lack of support supervisors	1.85	.62	-.14	-.20*	-.14	-.34**	-.50**
Lack of support colleagues	2.17	.39	-.25**	-.20*	-.26*	-.32**	-.41**
Negative ruminating about work	2.88	.58	-.09	-.32**	-.16	-.20*	-.48**
Psychological complaints (a)	2.48	.99	-.15	-.26*	-.23*	-.13	-.11

(a) n = 87, \* p < 0.05, \*\* p < 0.01. Columns labeled 1 through 5 correspond with LTT scales, as in Table 2.

## Reply letter for Journal of Emergency and services

Respons to second review

Below please find our point by point reply to the reviewers' comments. Reviewers' comments are in normal type, *our responses are in italics*.

*General response: We want to thank you for your positive comments and last suggestions for improvement.*

Reviewer: Referencing in the text

1. The referencing guidance for the journal suggests that where there are three or more authors the reference should appear as eg Adams et al. - sometimes you adopt this but on pages 4, 5, 6, 7, 8, 9, 10, and 13 there are multiple examples where you provide a list of authors

*Respons:*

*We checked the references in the text and changed it in the right way*

2. on page 6 this should read "Sonntag and Grant (2012)" - the brackets are missing

*Respons:*

*We add the brackets*

3. On page 12 you should now insert the reference withheld for review purposes

*Respons:*

*We add to the paper on page 12:*

Bakker et al. (2015)

*And in the literature list page 19:*

Bakker, A.H.M., Gaillard, A.W.K., Veldhoven, M.J.P.M. van, & 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*