

The Role of Affective Commitment and Perceived Social Support in Protecting Emergency Workers Against Burnout and Vicarious Traumatization

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Emergency workers are exposed to chronic and acute emotionally demanding stressors. Fortunately, they have some important psychological resources that can buffer the negative effects deriving from the exposure to occupational stressors. In particular, job, organizational, and family support can protect rescuers against negative health effects, such as burnout and vicarious traumatization (VT). The aim of this study was to investigate the role of perceived social support as a protective factor against negative outcomes in a sample of Italian rescuers. Of the present sample ($N = 782$), 70.3% were ambulance operators, mainly volunteers (65.9%). They filled in a paper-and-pencil questionnaire aimed at investigating VT, burnout, job support from colleagues and superiors, organizational support in terms of affective commitment, and family support. Stepwise multiple linear regression analyses verified the influence exerted by affective commitment and social support on well-being dimensions. Results showed that affective commitment has the most significant influence on all burnout and VT dimensions, whereas family support has the weakest influence. Our findings confirm that affective commitment is an important coping resource that protects individuals against negative effects and that social support at work is associated with some dimensions of burnout and posttraumatic symptoms. The main result of the present study concerns the important role of affective commitment as a protective resource against negative psychological effects. Therefore, work environments organized in a way that employees can feel affectively committed to their organization may function as a buffer against negative outcomes, especially if it is associated with a strong social support from colleagues.

Keywords: perceived social support, affective commitment, burnout, vicarious traumatization, emergency workers

Literature has suggested that work stress is particularly widespread among physically and psychologically demanding jobs (see, e.g., Sutherland & Cooper, 1990). Emergency workers are first respondents who intervene in the early stages of critical incidents and are responsible for the protection of not only individuals' lives but also their properties and environment (Prati & Pietrantonio, 2010). Professionally trained rescuers are, for example, ambulance operators, firefighters, search and rescue personnel, and policemen. They are constantly exposed to several emotionally demanding stressors as a major effect of their job duties (Alexander & Klein, 2001; Benedek, Fullerton,

& Ursano, 2007; Bennett, Williams, Page, Hood, & Woolard, 2004; Clohessy & Ehlers, 1999). Both acute stressors, such as incidents involving children, and chronic stressors, such as shift-work, may have a negative influence on rescuers' well-being, mainly in terms of burnout and vicarious traumatization (VT). Therefore, even if emergency workers may develop negative effects, research focusing on their well-being is still lacking (Shakespeare-Finch, Rees, & Armstrong, 2014). Among the psychological resources that rescue workers have at their disposal in facing negative effects of occupational stressors, social support is the resource that we specifically focus on in this article. We chose to focus on this psychological resource because numerous studies have demonstrated its protective role against stress (Viswesvaran, Sanchez, & Fisher, 1999), burnout (Halbesleben, 2006), and posttraumatic stress disorder (PTSD; Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2008). However, these research efforts have not specifically targeted rescuers. Therefore, as suggested by Prati and Pietrantonio (2010), we shift the attention to rescuers in order to investigate the role of social support on the health of those working in this profession.

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Within the social support literature, we have considered three of the main theoretical approaches, which emerged as relevant theories for understanding the protective role of social support against negative health effects. The first one is the buffering hypothesis (Cohen & Wills, 1985), according to which social support is related to well-being especially for persons under particular stressful conditions: In this view, we suggest the opportunity to apply the buffering hypothesis to rescue workers, who, in the line of duty, are often exposed to highly stressful situations. This model is named “buffering” because it is hypothesized that social support buffers (i.e., protects) people from the detrimental effects of stressful situations. Furthermore, we have considered the social support deterioration model (Norris & Kaniasty, 1996), specifically focused on the role exerted by social support on the reactions of disaster victims. Because emergency workers may be considered indirect victims of critical incidents (Prati & Pietrantonio, 2010), we propose to broaden the social support deterioration model from direct to indirect victims. Also in this case, social support functions as a buffer because people who receive high levels of help after disasters are better protected against salient erosion of their resources. Another relevant theoretical approach that can be used to explain the protective role of social support is the conservation of resources (COR) model (Hobfoll, 1989, 1998). This model considers both work-related social resources (i.e., support from colleagues and superiors) and non-work-related resources (i.e., support from family). In the workplace, the resources’ loss or threat of loss may lead employees to be burned out. Even if the COR model has shown that social support is associated with low levels of burnout, the specific effects of different sources of social support on different dimensions of burnout has been only partially investigated (Halbesleben, 2006).

Rescuers’ Psychological Resources: Job, Organizational, and Family Social Support

In the present study we have investigated social support in terms of job support, considered as the support from colleagues and superiors; organizational support, in terms of affective commitment; and family support. All these forms of social support are coping resources that may protect rescue workers against negative health effects (Halbesleben, 2006; Hobfoll, 1988; Viswesvaran et al., 1999). We examined *perceived* social support, because it has been demonstrated to have a greater effect size compared to actually received support (Norris & Kaniasty, 1996; Prati & Pietrantonio, 2010).

Organizational commitment can be defined as a psychological link or bond between employees and their organization (Schmidt, 2007) with beneficial consequences for both individuals and organizations (Allen & Meyer, 1990; Mathieu & Zajac, 1990). Allen and Meyer (1996) proposed a three-component model of organizational commitment: *Normative commitment* refers to employees’ feeling of obligation to stay with the organization; *continuance commitment* is the awareness of the costs potentially associated with leaving the organization; and *affective commitment* concerns the identification with, involvement in, and emotional attachment to one’s own organization (Schmidt, 2007). In the present study we chose to specifically focus on the affective dimension, because it has been recognized as one of the main components of organizational commitment (Schmidt & Diestel, 2012).

An innovative contribution of this study consists in considering the commitment of the organization toward its employees, which has been explored to a lesser extent, if compared to the more traditional research focused on the commitment of employees toward their organization (Baruch, 1998). Employees perceive that their organization is committed to them through perceived organizational support (Armstrong-Stassen, 2004): In other words, it is the perception of receiving supportive behaviors from colleagues and superiors (Caplan, Cobb, French, Harrison, & Pinneau, 1975; Kaufmann & Beehr, 1986). According to Armstrong-Stassen (2004), both affective commitment and perceived support by colleagues and superiors are important resources that can facilitate adaptive coping strategies, which in turn can protect against negative health effects, especially in stressful situations (Lazarus & Folkman, 1984; Lourel, Hartmann, Closon, Mouda, & Petric-Tatu, 2013).

Beyond perceived job and organizational support, social support may arise also from extraoccupational sources, such as family and friends (Baral & Bhargava, 2010; Caplan et al., 1975; Kaufmann & Beehr, 1986). It is important to consider the perceived support from family because it may be available when rescuers cannot be supported by their colleagues and superiors, for example in case of high emotional load (Prati & Pietrantonio, 2010). Literature has recognized two main types of family social support: emotional and instrumental. Emotional support is represented by sympathetic and caring behaviors and attitudes of listening to, talking to, and advising the subject about his or her work; instrumental support is the actual assistance supplied by family members in contributing to task accomplishment (Beehr, 1985; Lourel et al., 2015). In the present study, we have considered both of these types of family support.

Rescuers’ Psychological Outcomes: Burnout and Vicarious Traumatization

Even if it is widely recognized that emergency personnel have several psychological resources at their disposal, they can be vulnerable to negative outcomes, due to the constant exposure to critical incidents (Kirby, Shakespeare-Finch, & Gavan, 2011). Together with stress, burnout has received particular attention in this field of study (Leiter, Day, Gilin Oore, Spence Laschinger, 2012). This syndrome is characterized by emotional exhaustion, due to high emotional demands; psychological distancing from work in terms of depersonalization; and lack of professional efficacy (Maslach, Jackson, & Leiter, 1996). Burnout has been linked with the quality of social relationships at work, and a relevant contribution of supervisory and peer relationships has been recognized (Day & Leiter, 2014). In confirmation of this, according to Halbesleben (2006), social support is associated with low levels of burnout, and more in detail, improvements in the quality of work relationships are followed by decrease in exhaustion and depersonalization levels (Leiter, Spence Laschinger, Day, & Gilin-Oore, 2011). Therefore it is interesting to explore the effect of perceived social support at work on burnout, in order to confirm previous findings by Leiter and colleagues (2011) and Halbesleben (2006).

Beyond burnout, a high prevalence of posttraumatic symptoms has been found among direct victims as well as rescue workers exposed to traumatic events (Galea, Nandi, & Vlahov, 2005; Neria, Nandi, & Galea, 2008). More in detail, the prevalence of

posttraumatic symptomatology among rescuers ranges between 10% and 20%, and this finding supports the notion that they may be considered “victims,” even if indirect, of critical incidents (Prati & Pietrantonio, 2010). Unlike the noticed victims, who directly experience the event and develop PTSD symptoms (Setti & Argentero, 2014), those who take care of physically and/or psychologically traumatized people can develop the same negative effects, through witnessing or listening to their experience: This is known as vicarious traumatization (VT; Figley, 1995; Setti & Argentero, 2012). VT is defined as the stress deriving from helping others who are suffering or who have been traumatized (Figley, 1999, p. 10), and it is characterized by intrusive thoughts and memories related to the traumatic event; avoidance of people and places that may recall the event; and hyperarousal responses in terms of anger, irritability, and anxiety.

This study

Starting from the meta-analysis by Prati and Pietrantonio (2010), this exploratory study aimed to investigate the role of social support as a psychological resource in protecting rescue workers from the risk of developing negative health effects. Indeed, there is a paucity of research in this field of study and, in particular, among rescue workers; therefore, we would give a contribution to fill in this gap.

More in detail, the first aim of the present study was to verify the prevalence rate of posttraumatic symptoms in a sample of Italian emergency workers, through the Secondary Traumatic Stress Scale (STSS; Bride, Robinson, Yegidis, & Figley, 2004), using the scoring methodology suggested by Bride (2007) in the Method section of this article. To the best of our knowledge there is a lack of research on the prevalence of posttraumatic symptoms among Italian rescuers; therefore, we seek to enhance the theoretical knowledge in our national context. Furthermore, we compare the data collected on our sample of Italian rescuers with those collected by Bride (2007) among U.S. social workers in order to point out potential differences and similarities.

Furthermore, on the basis of previous studies on the relationship between social support and health among rescue workers (see Halbesleben, 2006; Prati & Pietrantonio, 2010; Viswesvaran et al., 1999), we have verified the following hypotheses regarding the protective role of perceived social support against burnout and VT:

Hypothesis 1: Affective commitment—that is, perceived organizational support—and perceived support by colleagues and superiors is significantly negatively related to burnout.

Hypothesis 2: Affective commitment—that is, perceived organizational support—and perceived support by colleagues and superiors is significantly negatively related to posttraumatic symptoms.

Hypothesis 3: Perceived family support is significantly negatively related to burnout and posttraumatic symptoms.

Method

Sample and Procedure

Study participants were 782 Italian rescuers (response rate = 78.2%). The majority were ambulance operators (70.3%), but the

sample also included military (7.0%), first aid operators (5.2%), firefighters (4.6%), policemen (4.2%), civil protection operators (3.6%), and other types of rescuers (5.2%). Among the participants, 57.6% were male, 55.0% were not married, and 65.9% worked as volunteers. Their mean age was 40.72 years ($SD = 13.91$), and their mean work seniority as rescuers was 9.65 years ($SD = 7.80$).

Rescuers were asked to fill in, anonymously and voluntarily, a paper-and-pencil questionnaire, and demographic information was obtained. The questionnaire was filled in at the end of a work shift. A newsletter explained to rescuers the goal of the study and the provided instructions for completing the questionnaire.

Measures

Vicarious traumatization. Vicarious traumatization was investigated with the Secondary Traumatic Stress Scale (STSS; Bride et al., 2004). Its 17 items evaluate the effects deriving from contact with the victims (Setti & Argentero, 2014). The statements are evaluated on a 5-point scale ranging from 1 (*never*) to 5 (*very often*) that provides scores for intrusion (e.g., “I thought about my work with victims when I didn’t intend it”), avoidance (e.g., “I wanted to avoid working with some victims”), and hyperarousal (e.g., “I was easily annoyed”). A VT symptom may be considered as present when the respondent indicates to have experienced it *occasionally*, *often*, or *very often* (Bride, 2007).

Burnout. The 16-item Maslach Burnout Inventory—General Scale (Leiter & Schaufeli, 1996) was used to evaluate the three burnout symptoms: emotional exhaustion (e.g., “I feel emotionally drained from my work”), depersonalization (e.g., “I have become less interested in my work since I started this job”), and professional inefficacy (e.g., “I can effectively solve the problems that arise in my work”). A 7-point frequency scale ranging from 0 (*never*) to 6 (*daily*) is used to indicate the extent to which participants experienced each item reverse-scored.

Job support. The Support Appraisal for Work Stressors inventory (Lawrence, Gardner, Callan, 2007) was used to evaluate perceived support available on the job. We administered the items of the subscales Emotional Support From Direct Supervisor (e.g., “I can rely on my superiors to help me feel better when I experience work-related problems”) and Emotional Support From Colleagues (e.g., “I can rely on my colleagues to help me feel better when I experience work-related problems”). Items are rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Family support. The Family Support Inventory for Workers (King, Mattimore, King, & Adams, 1995) was used to assess perceived social support from family members. In particular, the Emotional Sustenance subscale (e.g., “I feel better after discussing job-related problems with a family member”) refers to family members’ behaviors aimed at providing encouragement, understanding, and attention; the Instrumental Assistance subscale (e.g., “Members of my family help me with routine household tasks”) concerns family members’ behaviors aimed at facilitating household tasks. Items have been rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Commitment. The Affective subscale of the Organizational Commitment Questionnaire (Allen & Meyer, 1996) was administered. Its items (e.g., “I would be very happy to spend the rest of

my career in this organization") assess employees' affective bond to their organization, in terms of willingness to remain in their organization because they want to (Mowday, Porter, & Steers, 1982). Items have been rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Statistical Analyses

The SPSS 19.0 software package for Windows was used to conduct the analyses. Descriptive statistics for continuous variables were calculated using means and standard deviations. Descriptive statistics were used also in order to compute the number of respondents who met the diagnostic criteria for VT. Pearson's correlation analyses were conducted to examine the bivariate correlation among measures of psychological well-being (burnout and VT) and possible predictors (job, organizational, and family support). Stepwise multiple linear regression analyses were then carried out to verify the influence exerted by predictors on well-being dimensions. A p value of $<.05$ was considered statistically significant.

Results

Descriptive Statistics and Correlations

The means, standard deviations, intercorrelations, and internal consistencies (Cronbach's alpha) are provided in Table 1. The internal consistency reliability measured by Cronbach's alpha was high and above .70 for all the scales.

All the burnout dimensions were significantly related to affective commitment, in particular professional inefficacy ($r = -.440$, $p < .01$) but also depersonalization ($r = -.249$, $p < .01$) and emotional exhaustion ($r = -.203$, $p < .01$). Neither exhaustion nor depersonalization correlated with family support; both exhaustion and inefficacy were mainly related to support from colleagues (respectively, $r = -.230$ and $r = -.152$, $p < .01$), if compared to support from supervisors, whereas depersonalization especially correlated with support from supervisors ($r = -.236$, $p < .01$).

Also, VT dimensions were mainly related to affective commitment for intrusion ($r = -.081$, $p < .05$), hyperarousal ($r = -.183$, $p < .01$), and avoidance ($r = -.277$, $p < .01$). Neither avoidance nor hyperarousal correlated with family support; support from

colleagues was more related to the three VT dimensions, if compared to support from supervisors: for intrusion ($r = -.077$, $p < .05$), hyperarousal ($r = -.139$, $p < .01$), and avoidance ($r = -.196$, $p < .01$).

Diagnostic Criteria for VT

As previously stated, a VT symptom may be considered as present when the respondent indicates having experienced it *occasionally*, *often*, or *very often* (see Argentero & Setti, 2011; Bride, 2007). On the basis of individual symptoms rated according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; American Psychiatric Association, 2000; Bride, 2007), it is possible to compute the number of respondents who met the diagnostic criteria for VT.

The STSS does not consider the following PTSD diagnostic criteria, which are taken for granted: exposure to a traumatic event and relative reactions (criterion A), duration of the individual response (criterion E), and impairment (criterion F). Aside from these criteria, a person who endorses at least one item on the intrusion subscale (criterion B), three items on the avoidance subscale (criterion C), and two items on the hyperarousal subscale (criterion D), at a level equal to or higher than 3 (i.e., at least *occasionally*), meets the diagnostic criteria for PTSD, and so for VT. Indeed, criteria B, C, and D are considered the core VT symptoms (Bride, 2007).

Despite the hard working conditions (characterized by constant contact with traumatized people and exposure to critical events), only 20.1% of our respondents met the diagnostic criteria for PTSD, and 28.9% of them did not meet any of the diagnostic criteria (see Table 2). Furthermore, as shown by previous research (see Argentero & Setti, 2011; Bride, 2007), intrusion represents the most widespread posttraumatic manifestation: 63.1% of respondents perceived at least one intrusion symptom, whereas only 39.8% endorsed at least two items on the hyperarousal subscale and 27.5% endorsed three items on the avoidance subscale.

Protective Factors Against Burnout and Vicarious Traumatization

Stepwise multiple linear regression analyses were conducted to determine the amount of variance that perceived organizational

Table 1
Means, Standard Deviations, Reliability (Cronbach's Alpha), and Correlations Among Study Variables ($N = 782$)

Variable	<i>M</i> (<i>SD</i>)	α	1	2	3	4	5	6	7	8	9
Vicarious traumatization											
1. Intrusion	2.02 (.80)	.82	—								
2. Avoidance	1.93 (.72)	.82	.731**	—							
3. Hyperarousal	2.07 (.81)	.82	.655**	.786**	—						
Burnout											
4. Exhaustion	1.73 (1.30)	.86	.421**	.553**	.485**	—					
5. Depersonalization	1.60 (1.34)	.75	.404**	.530**	.431**	.597**	—				
6. Inefficacy	1.73 (1.10)	.81	.198**	.288**	.237**	.078*	.154**	—			
Job support											
7. Support from colleagues	3.63 (.90)	.87	-.077*	-.196**	-.139**	-.230**	-.204**	-.152**	—		
8. Support from supervisors	3.42 (1.04)	.92	-.026	-.160**	-.125**	-.203**	-.236**	-.114**	.575**	—	
9. Family support	3.40 (.70)	.83	.075*	-.021	.008	-.001	-.061	-.086*	.117**	.093**	—
10. Affective commitment	3.92 (.79)	.89	-.081*	-.277**	-.183**	-.203**	-.249**	-.440**	.241**	.275**	.117**

* $p < .05$. ** $p < .01$.

Table 2
Comparison of the Frequency of Diagnostic Criteria for VT
Between Italian and American Sample

Criteria	Italian sample (%)	U.S. sample ^a (%)
Intrusion (B)	63.1	45.4
Avoidance (C)	27.5	25.2
Arousal (D)	39.8	25.2
None	28.9	45.0
Intrusion + Avoidance + Arousal	20.1	15.2

Note. B, C, and D are criteria designations from the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; American Psychiatric Association, 2000).

^a Data are drawn from Bride (2007).

support, job support, and family support explain in each of the burnout and VT symptoms. At first, regressions were carried out including only affective commitment (Model 1); at a later stage, colleagues' and superiors' support were included (Model 2); then, perceived family support was introduced (Model 3); and finally, the type of employment contract—a control variable referring to the working position as professional or volunteer—was considered (Model 4) in order to verify the influence on dependent variables. We decided to control for the type of employment contract because

of the significant presence of volunteers in the study sample. For each dimension of burnout (see Table 3), an independent regression model was carried out. Affective commitment was the only variable that had a significant and inverse influence on all three burnout dimensions, and especially on inefficacy, at each step: at Step 1 ($\beta = -.446, p < .01$), Step 2 ($\beta = -.441, p < .01$), Step 3 ($\beta = -.438, p < .01$), and Step 4 ($\beta = -.442, p < .01$). Colleagues' support had a strong influence above all on emotional exhaustion: at Step 2 ($\beta = -.157, p < .01$), Step 3 ($\beta = -.160, p < .01$), and Step 4 ($\beta = -.147, p < .01$). It also had a weaker influence on depersonalization, at Steps 1 and 2. Superiors' support influenced depersonalization at both Steps 2 and 3 ($\beta = -.146, p < .01$) and at Step 4 ($\beta = -.130, p < .01$). It also had a weaker influence on emotional exhaustion, at the Steps 1 and 2. Whereas perceived family support did not influence any of the burnout dimensions, the type of employment contract significantly affected all the three burnout dimensions: for emotional exhaustion ($\beta = -.127, p < .01$), depersonalization ($\beta = -.133, p < .01$), and inefficacy $\beta = .096, p < .01$.

A similar regression model was carried out for VT symptoms (see Table 4). Also in this case, affective commitment had a significant and inverse influence on the three VT symptoms, at each step. The greatest effects were those exerted on avoidance: at Step 1 ($\beta = -.281, p < .01$), Step 2 ($\beta = -.241, p < .01$), Step

Table 3
Regression of Protective Factors on Burnout

Protective factors	Emotional exhaustion		Depersonalization		Inefficacy	
	<i>b</i> (SE)	β	<i>b</i> (SE)	β	<i>b</i> (SE)	β
Affective commitment						
Model 1	-.321 (.059)	-.196**	-.411 (.060)	-.244**	-.615 (.045)	-.446**
Model 2	-.221 (.060)	-.135**	-.307 (.061)	-.182**	-.608 (.047)	-.441**
Model 3	-.228 (.060)	-.139**	-.305 (.061)	-.181**	-.605 (.047)	-.438**
Model 4	-.219 (.060)	-.134**	-.296 (.061)	-.175**	-.611 (.047)	-.442**
Colleagues' support						
Model 2	-.230 (.063)	-.157**	-.137 (.064)	-.091*	-.075 (.049)	-.061
Model 3	-.235 (.063)	-.160**	-.135 (.064)	-.090*	-.072 (.049)	-.059
Model 4	-.216 (.063)	-.147**	-.115 (.064)	-.076	-.085 (.049)	-.069
Superiors' support						
Model 2	-.108 (.055)	-.085*	-.190 (.056)	-.146**	.037 (.043)	.035
Model 3	-.109 (.055)	-.086*	-.190 (.056)	-.146**	.038 (.043)	.036
Model 4	-.091 (.055)	-.072	-.170 (.056)	-.130**	.026 (.043)	.025
Family support						
Model 3	.081 (.067)	.043	-.022 (.068)	-.011	-.036 (.052)	-.023
Model 4	.073 (.066)	.039	-.030 (.067)	-.016	-.031 (.052)	-.020
Employment contract ^a						
Model 4	-.350 (.098)	-.127**	-.377 (.100)	-.133**	.222 (.077)	.096**
<i>R</i> ²						
Model 1	.038**		.060**		.199**	
Model 2	.082**		.100**		.201**	
Model 3	.083**		.101**		.202**	
Model 4	.099**		.117**		.211**	
Adjusted <i>R</i> ²						
Model 1	.037		.058		.198	
Model 2	.078		.097		.198	
Model 3	.079		.096		.198	
Model 4	.093		.112		.205	

^a Employment contract refers to the type of working position (i.e. professional vs. volunteer).

* $p < .05$. ** $p < .01$.

Table 4
Regression of Protective Factors on Vicarious Traumatization

Protective factors	Intrusion		Avoidance		Arousal	
	<i>b</i> (SE)	β	<i>b</i> (SE)	β	<i>b</i> (SE)	β
Affective commitment						
Model 1	-.078 (.037)	-.078*	-.255 (.032)	-.281**	-.194 (.037)	-.189**
Model 2	-.067 (.038)	-.067	-.218 (.033)	-.241**	-.159 (.038)	-.156**
Model 3	-.076 (.038)	-.075*	-.220 (.033)	-.243**	-.163 (.038)	-.159**
Model 4	-.075 (.038)	-.074	-.217 (.033)	-.239**	-.161 (.038)	-.157**
Colleagues' support						
Model 2	-.081 (.040)	-.090*	-.100 (.034)	-.123**	-.077 (.040)	-.084
Model 3	-.087 (.040)	-.097*	-.102 (.035)	-.125**	-.080 (.040)	-.087*
Model 4	-.085 (.040)	-.094*	-.094 (.034)	-.116**	-.074 (.040)	-.081
Superiors' support						
Model 2	.031 (.035)	.040	-.026 (.030)	-.037	-.037 (.035)	-.047
Model 3	.029 (.035)	.037	-.027 (.030)	-.038	-.038 (.035)	-.048
Model 4	.031 (.035)	.040	-.019 (.030)	-.027	-.032 (.035)	-.041
Family support						
Model 3	.102 (.042)	.089*	.025 (.036)	.024	.046 (.042)	.039
Model 4	.102 (.042)	.089*	.022 (.036)	.022	.044 (.042)	.038
Employment contract ^a						
Model 4	-.043 (.063)	-.025	-.145 (.054)	-.095**	-.115 (.062)	-.067
<i>R</i> ²						
Model 1	.006*		.079**		.036**	
Model 2	.012*		.099**		.049**	
Model 3	.019**		.100**		.050**	
Model 4	.020**		.109**		.054**	
Adjusted <i>R</i> ²						
Model 1	.005		.078		.035	
Model 2	.008		.096		.045	
Model 3	.014		.095		.045	
Model 4	.013		.103		.048	

^a Employment contract refers to the type of working position (i.e. professional vs. volunteer).

* $p < .05$. ** $p < .01$.

3 ($\beta = -.243$, $p < .01$), and Step 4 ($\beta = -.239$, $p < .01$). Avoidance was also strongly influenced by colleagues' support: at Step 1 ($\beta = -.123$, $p < .01$), Step 2 ($\beta = -.125$, $p < .01$), and Step 3 ($\beta = -.116$, $p < .01$). The influence of support by colleagues was weaker on both intrusion and hyperarousal. As for burnout, perceived family support had a weak influence on VT dimensions (only for intrusion), and superiors' support had no effects on posttraumatic symptoms. In this case, being a professional or a volunteer seems to affect only avoidance manifestations ($\beta = .095$, $p < .01$) and not intrusion and hyperarousal.

On the basis of the role played by the employment contract in affecting well-being dimensions, and especially burnout, an analysis of variance (ANOVA) was carried out in order to ascertain the presence of significant differences between professional and volunteer workers in burnout and VT dimensions. Findings, presented in Table 5, generally indicated higher levels of malaise among professional workers with regard to both burnout and VT. In particular, the results of the ANOVA showed significant differences for emotional exhaustion, $F(1) = 24.27$, $p < .01$; depersonalization, $F(1) = 26.84$, $p < .01$; avoidance, $F(1) = 15.77$, $p < .01$; and hyperarousal, $F(1) = 8.05$, $p < .05$.

Discussion

This study sought to assess the impact of perceived social support on emergency workers' well-being. As to the first explor-

ative aim, 20% of our sample fully met the diagnostic criteria for VT, whereas Bride (2007) obtained a rate of 15% among social workers. We found that, in line with this result, only 29% of our participants met none of the VT criteria, whereas Bride found a rate of 45%. The higher malaise that rescuers show in comparison to social workers may be ascribed to the specific work conditions

Table 5
One-Way ANOVA for Different Types of Employment Contract (Professional vs. Volunteer) Regarding Burnout and Vicarious Traumatization Dimensions

Variable	Professional personnel: <i>M</i> (SD)	Volunteer personnel: <i>M</i> (SD)	<i>F</i>
Burnout			
Emotional exhaustion	2.06 (1.38)	1.58 (1.24)	24.27**
Depersonalization	1.97 (1.42)	1.44 (1.27)	26.84**
Inefficacy	1.65 (1.08)	1.76 (1.11)	1.70
Vicarious traumatization			
Intrusion	2.08 (.88)	2.01 (.77)	1.22
Avoidance	2.08 (.79)	1.86 (.67)	15.77**
Hyperarousal	2.19 (.89)	2.01 (.77)	8.05*

Note. ANOVA = analysis of variance.

* $p < .05$. ** $p < .01$.

and responsibilities: Even if social workers hold a difficult job, rescuers meet acute stressors—in terms of unpredictable and traumatic situations—more frequently, so it is conceivable that they present higher levels of VT. It may be interesting to compare rescuers and social workers in terms of chronic health manifestations, such as burnout; we could hypothesize a different trend, which should be verified in future studies.

Furthermore, previous research has demonstrated the presence of important resilience resources among emergency personnel, with many of them reporting positive benefits from their activity (see, e.g., Shakespeare-Finch, 2011). On the basis of these findings, we investigated the influence of some important psychological resources—in terms of job, organizational, and family support—on burnout and VT dimensions. In general, results yielded support for our hypotheses: Affective commitment (i.e., perceived organizational support) and perceived job support from colleagues and superiors were found to be protective factors against negative health effects. These results also confirm previous findings according to which social support plays a protective role against stress reactions across different professions (see Beaton, Murphy, Pike, & Corneil, 1997; Brown & Grover, 1998; Corneil, Beaton, Murphy, Johnson, & Pike, 1999; Linley & Joseph, 2006; Regehr, Hill, & Glancy, 2000; Stephens & Long, 1999; van der Ploeg & Kleber, 2003).

More in detail, in regard to the first hypothesis, affective commitment and perceived support by colleagues and superiors were significantly negatively related to burnout dimensions. In particular, we found a significant and inverse influence of affective commitment on all three burnout dimensions. Furthermore, perceived colleagues' support influenced emotional exhaustion, and perceived superiors' support influenced depersonalization.

Regarding the second hypothesis, VT symptoms were also inversely predicted by affective commitment and perceived support by colleagues, whereas superiors' support did not prove to be a significant predictor of posttraumatic symptoms. Therefore, perceiving social support significantly and negatively predicted posttraumatic manifestations, and in particular it may have lowered the incidence of traumatic stimuli through acknowledging and processing the event. This result supports previous findings indicating that perceived social support is a strong protective factor against posttraumatic symptoms among individuals exposed to traumatic events (Brewin et al., 2000; Lepore, 2001; Ozer et al., 2008).

In general, findings regarding burnout and VT confirm previous literature on emergency workers, which showed that social support at work is associated with lower levels of burnout and posttraumatic symptoms (Armstrong-Stassen, 2004). Indeed, according to the stress-buffering hypothesis (Cohen & Wills, 1985), the social support deterioration model (Norris & Kaniasty, 1996), and the conservation of resources model (Hobfoll, 1989, 1998), perceived social support protects against negative effects of stress. In particular, as previously found also by Alexander and Klein (2001) and by Fullerton, McCarroll, Ursano, and Wright (1992), our results suggest the greater strength of peers' support, compared to superiors' support. Indeed, emergency operators may be reluctant to ask support from their superiors because of their concerns about confidentiality (Alexander, 1993). As previously demonstrated by Armstrong-Stassen (2004), our findings also suggest that workers in those organizations that have shown they value their employees and care about their well-being will respond less negatively, in

terms of burnout and posttraumatic symptoms. In particular, affective commitment appears to be an important coping resource that protects individuals against negative effects of stressful situations (Antonovsky, 1979; Begley & Czajka, 1993; Mowday et al., 1982). Affective commitment provides rescuers with feelings of emotional stability and belonging, which in turn strengthen the ability to resist occupational stressors (Schmidt & Diestel, 2012).

The third hypothesis concerned the role of perceived family support, and in particular we hypothesized its inverse influence on burnout and VT symptoms, as previously demonstrated by King and colleagues (1995). The importance of investigating family, beyond organizational and job support, is due to the *reverse buffering* effect, hypothesized by Hobfoll and London (1986). According to them, in particularly critical circumstances social support from peers and superiors does not protect from stress but might actually exacerbate the trauma experience. In other words, talking about traumatic experiences may represent an additional exposure. Therefore, family members constitute a potential source of social support to consider in this field of study. The hypothesis has been only partially confirmed: Our results show only a weak influence on intrusion, and no burnout dimension seems to be predicted by this dimension. Hyman (2004) found that emergency workers usually avoid discussing work-related topics with family members in order to protect them from vicarious exposure to traumatic experiences. Furthermore, because family can only modestly alter work conditions, it is conceivable that family support may have only a reduced effect on occupational well-being (King et al., 1995). On the contrary, as shown by our results and as previously anticipated by King and colleagues (1995), perceived social support from superiors and colleagues has the strongest effect on well-being.

Finally, because our sample was mainly composed of volunteers, we also considered the type of employment contract (professional vs. volunteer) as a control variable. Our findings show that being a professional or a volunteer affects all the burnout dimensions and, among VT manifestations, avoidant behaviors. The ANOVA results confirm the greater psychological malaise for professional emergency workers, who obtained higher average scores on all the burnout and VT symptoms, probably because of more frequent exposure to critical events (Setti & Argentero, 2015).

Study Limitations and Recommendations for Further Research

Although this study provided some further evidence for the concept of affective commitment and social support as predictors of rescuers' well-being, it is also limited in several respects. First, even if a particular causal order of the variables were supposed, the cross-sectional design restricts the inference of causal relationships. Nevertheless, the use of validated and reliable instruments increased the accuracy of the findings. Furthermore, in their meta-analysis, Prati and Pietrantonio (2010) did not find significant differences between longitudinal and cross-sectional studies focused on the relationship between social support and mental health. Second, from a methodological standpoint, another limitation concerns the lacking use of a missing data procedure, even if it may significantly improve the study power (Graham, 2009). Therefore, in future research it could be useful to carry out a

missing data analysis, in order to apply the most appropriate strategy, which in most cases may be the use of auxiliary variables in order “to reduce estimation bias and partially restore lost power due to missingness” (Graham, 2009, p. 560). Third, study variables were operationalized only through self-report measures: Common method variance might have contaminated the relations found (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, self-report questionnaires represent the most useful and effective instruments to assess study variables, but future research could also include objective measures—such as number of previous traumatic experiences, an important predictor of posttraumatic responses—as suggested by Schmidt and Diestel (2012). Fourth, our sample was not homogeneous, because we merged different types of rescuers, but this design is in line with emergency workers’ literature (see Benedek et al., 2007; Gist, 2007; McFarlane & Bryant, 2007; Prati & Pietrantonio, 2010). This choice may be considered appropriate because rescue workers share similar work contexts (in terms of exposure to critical incidents) and are exposed to comparable job stressors, which, in turn, produce similar psychological effects. With regard to this, on the basis of the significant differences observed between professional and volunteer rescuers, future studies could be focused on more specific populations, and in particular it could be interesting to analyze causal relationships separately for professionals and volunteers, in order to compare them and measure possible differences. Finally, our results showed that well-being is weakly related to perceived family support, which instead, according to previous research (see King et al., 1995), strongly predicts other variables, such as life satisfaction. So, it is conceivable that perceived support from family may influence variables not considered in the present study, such as life satisfaction, which therefore may be investigated in future research.

Additional Considerations for Practice and Research

From a theoretical perspective, the main result of the present study concerns the important function of affective commitment—in terms of perceived organizational support—and job support from colleagues and superiors, as protective resources that have the potential to reduce strain. From a practical perspective, this finding may represent a starting point for interventions aimed at preventing or reducing negative psychological effects. In particular, work environments organized in such a way that employees can feel affectively committed to their organization may function as a buffer against negative outcomes, especially when affective commitment is associated with strong social support from colleagues and superiors (Cohen & Wills, 1985). But it needs to be specified that, in order to have affectively committed employees, organizations must primarily demonstrate their own commitment by providing a supportive work environment (Eisenberger, Huntington, Hutchison, & Sowa, 1986).

With respect to the role of perceived social support at work, our results have also demonstrated that it may help reducing both chronic (in terms of burnout) and acute (in terms of VT) responses. Therefore, interventions aimed at increasing the perception of social support, such as providing staff support services, may facilitate psychological well-being in emergency personnel. Furthermore, social support at work represents one of the posttrauma factors associated with lower levels of psychological malaise;

therefore, resilience training and treatment interventions aimed at reinforcing occupational well-being may consider the enhancement of this resource (Meyer et al., 2012). Indeed, social support may encourage the appraisal of the event and promote the adoption of adaptive coping strategies that, in turn, increase general well-being (Joseph, Williams, & Yule, 1995; Moos & Schaefer, 1993). In other words, the perception of receiving help from others may redefine the harm posed by the critical situation and reinforce the self-efficacy.

In conclusion, as previously demonstrated by Meyer and colleagues (2012), the present research confirms that affective commitment and job support are valuable resources with positive influence on well-being: They have been found to reduce strain effects in a direct way. In particular, affective commitment may be seen as a new and promising instrument of stress management that may be studied with further attention in future research and practice.

References

- Alexander, D. A. (1993). Stress among police body handlers. A long-term follow-up. *British Journal of Psychiatry*, 163, 806–808. <http://dx.doi.org/10.1192/bjp.163.6.806>
- Alexander, D. A., & Klein, S. (2001). Ambulance personnel and critical incidents: Impact of accident and emergency work on mental health and emotional well-being. *British Journal of Psychiatry*, 178, 76–81. <http://dx.doi.org/10.1192/bjp.178.1.76>
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63, 1–18. <http://dx.doi.org/10.1111/j.2044-8325.1990.tb00506.x>
- Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior*, 49, 252–276. <http://dx.doi.org/10.1006/jvbe.1996.0043>
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of disorders* (4th ed., text rev.). Washington, DC: Author.
- Antonovsky, A. (1979). *Health, stress, and coping*. San Francisco, CA: Jossey-Bass.
- Argentero, P., & Setti, I. (2011). Engagement and vicarious traumatization in rescue workers. *International Archives of Occupational and Environmental Health*, 84, 67–75. <http://dx.doi.org/10.1007/s00420-010-0601-8>
- Armstrong-Stassen, M. (2004). The influence of prior commitment on the reactions of layoff survivors to organizational downsizing. *Journal of Occupational Health Psychology*, 9, 46–60. <http://dx.doi.org/10.1037/1076-8998.9.1.46>
- Baral, R., & Bhargava, S. (2010). Work-family enrichment as a mediator between organizational interventions for work-life balance and job outcomes. *Journal of Managerial Psychology*, 25, 274–300. <http://dx.doi.org/10.1108/02683941011023749>
- Baruch, Y. (1998). The rise and fall of organizational commitment. *Human Systems Management*, 17, 135–143.
- Beaton, R. D., Murphy, S. A., Pike, K. C., & Corneil, W. (1997). Social support and network conflict in firefighters and paramedics. *Western Journal of Nursing Research*, 19, 297–313. <http://dx.doi.org/10.1177/019394599701900303>
- Beehr, T. A. (1985). The role of social support in coping with organizational stress. In T. A. Beehr & R. S. Bhagat (Eds.), *Human stress and cognition in organizations: an integrated perspective* (pp. 375–398). New York, NY: Wiley.
- Begley, T. M., & Czajka, J. M. (1993). Panel analysis of the moderating effects of commitment on job satisfaction, intent to quit, and health

- following organizational change. *Journal of Applied Psychology*, 78, 552–556. <http://dx.doi.org/10.1037/0021-9010.78.4.552>
- Benedek, D. M., Fullerton, C., & Ursano, R. J. (2007). First responders: Mental health consequences of natural and human-made disasters for public health and public safety workers. *Annual Review of Public Health*, 28, 55–68. <http://dx.doi.org/10.1146/annurev.publhealth.28.021406.144037>
- Bennett, P., Williams, Y., Page, N., Hood, K., & Woollard, M. (2004). Levels of mental health problems among UK emergency ambulance workers. *Emergency Medicine Journal*, 21, 235–236. <http://dx.doi.org/10.1136/emj.2003.005645>
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68, 748–766. <http://dx.doi.org/10.1037/0022-006X.68.5.748>
- Bride, B. E. (2007). Prevalence of secondary traumatic stress among social workers. *Social Work*, 52, 63–70. <http://dx.doi.org/10.1093/sw/52.1.63>
- Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice*, 14, 27–35. <http://dx.doi.org/10.1177/1049731503254106>
- Brown, J., & Grover, J. (1998). The role of moderating variables between stressor exposure and being distressed in a sample of serving police officers. *Personality and Individual Differences*, 24, 181–185. [http://dx.doi.org/10.1016/S0191-8869\(97\)00156-6](http://dx.doi.org/10.1016/S0191-8869(97)00156-6)
- Caplan, R. D., Cobb, S., & French, J. R. P., Jr., Harrison, R. V., & Pinneau, S. R., Jr. (1975). *Job demands and worker health*. Ann Arbor, MI: Institute for Social Research.
- Clohessy, S., & Ehlers, A. (1999). PTSD symptoms, response to intrusive memories and coping in ambulance service workers. *British Journal of Clinical Psychology*, 38, 251–265. <http://dx.doi.org/10.1348/014466599162836>
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98, 310–357. <http://dx.doi.org/10.1037/0033-2909.98.2.310>
- Corneil, W., Beaton, R., Murphy, S., Johnson, C., & Pike, K. (1999). Exposure to traumatic incidents and prevalence of posttraumatic stress symptomatology in urban firefighters in two countries. *Journal of Occupational Health Psychology*, 4, 131–141. <http://dx.doi.org/10.1037/1076-8998.4.2.131>
- Day, A., & Leiter, M. P. (2014). The good and bad of working relationships: Implications for burnout. In M. P. Leiter, A. B. Bakker, & C. Maslach (Eds.), *Burnout at work* (pp. 56–79). London, UK: Psychology Press.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71, 500–507. <http://dx.doi.org/10.1037/0021-9010.71.3.500>
- Figley, C. R. (Ed.). (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized* (pp. 1–20). New York, NY: Brunner-Routledge.
- Figley, C. R. (1999). Compassion fatigue: Toward a new understanding of the cost of caring. In B. H. Stamm (Ed.), *Secondary traumatic stress* (pp. 3–28). Towson, MD: Sidran Institute.
- Fullerton, C. S., McCarroll, J. E., Ursano, R. J., & Wright, K. M. (1992). Psychological responses of rescue workers: Fire fighters and trauma. *American Journal of Orthopsychiatry*, 62, 371–378. <http://dx.doi.org/10.1037/h0079363>
- Galea, S., Nandi, A., & Vlahov, D. (2005). The epidemiology of post-traumatic stress disorder after disaster. *Epidemiologic Reviews*, 27, 78–91. <http://dx.doi.org/10.1093/epirev/mxi003>
- Gist, R. (2007). Promoting resilience and recovery in first responders. In J. N. Breckenridge, L. E. Beutler, B. Bongar, L. M. Brown, & P. G. Zimbardo (Eds.), *Psychology of terrorism* (pp. 418–433). New York, NY: Oxford University Press.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60, 549–576. <http://dx.doi.org/10.1146/annurev.psych.58.110405.085530>
- Halbesleben, J. R. B. (2006). Sources of social support and burnout: A meta-analytic test of the conservation of resources model. *Journal of Applied Psychology*, 91, 1134–1145.
- Hobfoll, S. E. (1988). *The ecology of stress*. New York, NY: Hemisphere.
- Hobfoll, S. E. (1989). Conservation of resources. A new attempt at conceptualizing stress. *American Psychologist*, 44, 513–524. <http://dx.doi.org/10.1037/0003-066X.44.3.513>
- Hobfoll, S. E. (1998). *Stress, culture, and community*. <http://dx.doi.org/10.1007/978-1-4899-0115-6>
- Hobfoll, S. E., & London, P. (1986). The relationship of self-concept and social support to emotional distress among women during war. *Journal of Social and Clinical Psychology*, 4, 189–203. <http://dx.doi.org/10.1521/jscp.1986.4.2.189>
- Hyman, O. (2004). Perceived social support and secondary traumatic stress symptoms in emergency responders. *Journal of Traumatic Stress*, 17, 149–156. <http://dx.doi.org/10.1023/B:JOTS.0000022621.27014.0e>
- Joseph, S., Williams, R., & Yule, W. (1995). Psychosocial perspectives on post-traumatic stress. *Clinical Psychology Review*, 15, 515–544. [http://dx.doi.org/10.1016/0272-7358\(95\)00029-0](http://dx.doi.org/10.1016/0272-7358(95)00029-0)
- Kaufmann, G. M., & Beehr, T. A. (1986). Interactions between job stressors and social support: Some counterintuitive results. *Journal of Applied Psychology*, 71, 522–526. <http://dx.doi.org/10.1037/0021-9010.71.3.522>
- King, L. A., Mattimore, L. K., King, D. W., & Adams, G. A. (1995). Family Support Inventory for Workers: A new measure of perceived social support from family members. *Journal of Organizational Behavior*, 16, 235–258. <http://dx.doi.org/10.1002/job.4030160306>
- Kirby, R., Shakespeare-Finch, J., & Gavan, P. (2011). Adaptive and maladaptive coping strategies predict posttrauma outcomes in ambulance personnel. *Traumatology*, 17, 25–34. <http://dx.doi.org/10.1177/1534765610395623>
- Lawrence, S. A., Gardner, J., & Callan, V. J. (2007). The support appraisal for work stressors inventory: Construction and initial validation. *Journal of Vocational Behavior*, 70, 172–204. <http://dx.doi.org/10.1016/j.jvb.2006.09.003>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Leiter, M. P., Day, A., Gilin Oore, D., & Spence Laschinger, H. K. (2012). Getting better and staying better: Assessing civility, incivility, distress, and job attitudes one year after a civility intervention. *Journal of Occupational Health Psychology*, 17, 425–434. <http://dx.doi.org/10.1037/a0029540>
- Leiter, M. P., Spence Laschinger, H. K. S., Day, A., & Gilin Oore, D. (2011). The impact of civility interventions on employee social behavior, distress, and attitudes. *Journal of Applied Psychology*, 96, 1258–1274. <http://dx.doi.org/10.1037/a0024442>
- Leiter, M. P., & Schaufeli, W. B. (1996). Consistency of the burnout construct across occupations. *Anxiety, Stress, and Coping*, 9, 229–243. <http://dx.doi.org/10.1080/10615809608249404>
- Lepore, S. J. (2001). A social-cognitive processing model of emotional adjustment to cancer. In A. Baum & B. L. Andersen (Eds.), *Psychosocial interventions for cancer* (pp. 99–116). <http://dx.doi.org/10.1037/10402-006>
- Linley, P. A., & Joseph, S. (2006). The positive and negative effects of disaster work: A preliminary investigation. *Journal of Loss and Trauma*, 11, 229–245. <http://dx.doi.org/10.1080/15325020500494186>
- Lourel, M., Gana, K., Mouda, F., Gros, F., Petric-Tatu, O., Trouillet, R., & Fort, I. (2015). Positive and negative work-family interaction: How burnout is related to job satisfaction. *Journal of Scientific Research and Reports*, 6, 350–362. <http://dx.doi.org/10.9734/JSRR/2015/15809>

- Lourel, M., Hartmann, A., Closon, C., Mouda, F., & Petric-Tatu, O. (2013). Social support and health: An overview of selected theoretical models for adaptation. In S. Chen (Ed.), *Social support, gender and culture, and health benefits* (pp. 1–20). Hauppauge, NY: Nova Science.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, 108, 171–194. <http://dx.doi.org/10.1037/0033-2909.108.2.171>
- McFarlane, A. C., & Bryant, R. A. (2007). Post-traumatic stress disorder in occupational settings: Anticipating and managing the risk. *Occupational Medicine*, 57, 404–410. <http://dx.doi.org/10.1093/occmed/kqm070>
- Meyer, E. C., Zimering, R., Daly, E., Knight, J., Kamholz, B. W., & Gulliver, S. B. (2012). Predictors of posttraumatic stress disorder and other psychological symptoms in trauma-exposed firefighters. *Psychological Services*, 9, 1–15. <http://dx.doi.org/10.1037/a0026414>
- Moos, R. H., & Schaefer, J. A. (1993). Coping resources and processes: Current concepts and measures. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (2nd ed., pp. 234–257). New York, NY: Free Press.
- Mowday, R. T., Porter, L. W., & Steers, R. M. (1982). *Employee-organization linkages: The psychology of commitment, absenteeism, and turnover*. New York, NY: Academic Press.
- Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine*, 38, 467–480. <http://dx.doi.org/10.1017/S0033291707001353>
- Norris, F. H., & Kaniasty, K. (1996). Received and perceived social support in times of stress: A test of the social support deterioration deterrence model. *Journal of Personality and Social Psychology*, 71, 498–511. <http://dx.doi.org/10.1037/0022-3514.71.3.498>
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2008). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(1), 3–36. <http://dx.doi.org/10.1037/1942-9681.5.1.3>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903. <http://dx.doi.org/10.1037/0021-9010.88.5.879>
- Prati, G., & Pietrantoni, L. (2010). An application of the social support deterioration deterrence model to rescue workers. *Journal of Community Psychology*, 38, 901–917. <http://dx.doi.org/10.1002/jcop.20404>
- Regehr, C., Hill, J., & Glancy, G. D. (2000). Individual predictors of traumatic reactions in firefighters. *Journal of Nervous and Mental Disease*, 188, 333–339. <http://dx.doi.org/10.1097/00005053-200006000-00003>
- Schmidt, K. (2007). Organizational commitment: A further moderator in the relationship between work stress and strain? *International Journal of Stress Management*, 14, 26–40. <http://dx.doi.org/10.1037/1072-5245.14.1.26>
- Schmidt, K., & Diestel, S. (2012). The relation of self-control demands to job strain: The moderating role of organisational commitment. *Applied Psychology*, 61, 479–497. <http://dx.doi.org/10.1111/j.1464-0597.2011.00479.x>
- Setti, I., & Argentero, P. (2012). Vicarious trauma: A contribution to the Italian adaptation of the Secondary Traumatic Stress Scale. *Bollettino di Psicologia Applicata*, 264, 58–64.
- Setti, I., & Argentero, P. (2014). The role of mindfulness in protecting firefighters from psychosomatic malaise. *Traumatology*, 20, 134–141. <http://dx.doi.org/10.1037/h0099398>
- Setti, I., & Argentero, P. (2015). Well-being among volunteer firefighters: Mindfulness as psychological resource. *Psicologia della Salute*, 2, 101–121.
- Shakespeare-Finch, J. (2011). Primary and secondary trauma in emergency personnel. *Traumatology*, 17, 1–2. <http://dx.doi.org/10.1177/1534765611431834>
- Shakespeare-Finch, J., Rees, A., & Armstrong, D. (2014). Social support, self-efficacy, trauma and well-being in emergency medical dispatchers. *Social Indicator Research*, 123, 549–565. <http://dx.doi.org/10.1007/s11205-014-0749-9>
- Stephens, C., & Long, N. (1999). Posttraumatic stress disorder in the New Zealand police: The moderating role of social support following traumatic stress. *Anxiety, Stress, and Coping*, 12, 247–264. <http://dx.doi.org/10.1080/10615809908250477>
- Sutherland, V. J., & Cooper, C. L. (1990). *Understanding stress: A psychological perspective for health professionals*. New York, NY: Chapman and Hall.
- van der Ploeg, E., & Kleber, R. J. (2003). Acute and chronic job stressors among ambulance personnel: Predictors of health symptoms. *Occupational and Environmental Medicine*, 60, i40–i46. http://dx.doi.org/10.1136/oem.60.suppl_1.i40
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54, 314–334. <http://dx.doi.org/10.1006/jvbe.1998.1661>

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