

## The Sources of Occupational Stress and Coping Strategies among Emergency Workers in Sabah, Malaysia

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### Abstract

*The purpose of this paper is to identify the sources of occupational stress and coping strategies in dealing with stress among emergency workers. A total of 348 emergency workers (firefighters, police, and military personnel) were involved in the study. The study used a set of questionnaire survey and area sampling design. The questionnaire comprises: The Sources of Occupational Stress (SOOS), Coping Oriented to Problem Experienced (COPE), and the Psychological Health Questionnaire (PHQ). The result of the study indicated that the sources of occupational stress have significant positive correlations with job stress. The study also found that the relationship between the sources of stress and coping strategies were significantly positively related. The relationship between the sources of stress and the psychological well-being also showed a significant positive correlation. These findings provide some implications for the human resource department of the emergency workers to establish a counseling unit in order to deal with psychological problem faced by the emergency workers*

### Introduction

Emergency workers are often exposed to emergency and stressful conditions including the threat of injury, mutilation and death (Corneil, 1993). They used to involve directly in the rescue of victims of a disaster such as flood, fire, a traffic accident, or a medical emergency. Although the responsibility of rescuing the victims of a particular disaster is a shared responsibility among members of the community, the people directly involved in providing relief and rescue work is the emergency workers comprised of firefighters, police, military, paramedics, and other emergency workers. Emergency workers help protect the public against these emergency situations by rapidly responding to emergency calls. They are frequently the first emergency personnel arriving at the scene of a disaster offering assistance and performing their job. Emergency workers such as firefighters, police and military personnel had risked their lives in performing their duties. Although the nature of their work is dangerous, they are prepared in performing their duty the best they could.

Due to the nature of the job of the emergency workers is extremely challenging, the coping strategies factor is very important in dealing with work-related stress. There are many studies examining the relationships between sources of stress and coping strategies (Ambrose & Kulik, 1999; Clohessy & Ehlers, 1999; Cooper, Clarke & Rowbottom, 1999; Fogarty, Machin, Albion et al., 1999; Fox, Dwyer & Ganster, 1993; John, James & Jian Lin, 2001; Kirkcaldy, Stephard & Furnham, 2002; Kop, Euwema & Schaufeli, 1999; Long, 1993; Lou Lu, 1999, Othman, 1979; Sacker, Bartley, Frith et al., 2001). Accordingly, it is vital to look in depth the factors on work-related stress and the coping strategies that they use. This study aims to see whether there is a significant correlation between the sources of stress and the coping strategies among emergency workers in Sabah, Malaysia. This is important to ensure that the emergency workers are always prepared to respond immediately to emergency that arises and able to handle stressful situation based on coping strategies suitable with the nature of their work.

The emergency workers focus in the current study is the members of the firefighters, police, and military. Firefighter is one of the professions directly involved in an emergency and stressful environment. A fire fighter should possess proper and effective coping strategies. According to Leigh (1988), fire fighting is a stressful and dangerous occupation that ranks fifth in occupational mortality in the United States. Furthermore Corneil (1993) reported that fire fighters are faced with a range of hazards, such as exposure to chemical and biological threats, and the long term effects of exposure to smoke, as well as the risk of psychological conditions such as post-traumatic stress disorder (PTSD), resulting from witnessing traumatic events. The military personnel are one of the emergency workers who protect the country from threats in the country and abroad. Whether playing the role of combatant in a war zone or peace fighters, military personnel have experienced many difficulties in their daily tasks through hard training and also completed the task in accordance with the stipulated time. Exercises that apply to the military is intended to test the physical strength, mental, and make the military personnel are always in a state ready to face whatever challenges they must face in the future. In addition, the military must be constantly vigilant and ready at all times maintain the highest level of their performance.

Military personnel is not only serving in the army but they also act as safety officers who control the public (National Research Council, 2008). Most of these operations require all members to work on an ongoing basis in which the military personnel had to stay 24 hours and the period for a particular operation will continue until three to six months. There are differing views and opinions in defining stress. Cox (1978) believes that stress is a threat to quality of life, damage to physical and psychological health. According to Cooper, Clarke and Rowbottom (1999), "stress" or pressure, derived from the Latin word "stringere", which means to pull tightly, and is used in the seventeenth century to describe the difficulty, or suffering. However, according to Selye (1983), the term "stress" or pressure (such as success, failure, or happiness), has different meanings to different people but some experts and scientists special, no one really tried to define , although it has become part of our daily treasury said. Kasl (1996) concluded in its study, that the term "stress" or pressure used in basically a few different ways: (a) as a condition of the environment, (b) the assessment of surrounding circumstances, (c) in response to the them , and (d) as a form of relationship between the demands of the environment and the ability to meet these demands.

Sarafino (2002) reported that some researchers have conceptualized stress in three ways. In the first approach, the pressure is seen as a stimulus (stimulus), and studies focusing on the impact of the sources of stress. The second approach is seen as a stress reaction and examines physical and psychological pressure generated by the sources of stress, while the third approach suggests that stress is a process that involves interaction and adaptation, or transactions between people and the environment. This three-way approach leads to a definition of stress: a condition that occurs when the human-environment transactions lead to the gap between the demand situation and the sources of biological, psychological and social system of a person (Sarafino, 2002).Cox, Griffiths and Rial-Gonzalez (2000) reported that a conclusion has been made in several different reviews of previous studies about the pressure that there are basically three approaches to the definition of pressure is different but mutually overlapping. The first approach was conceptualized as a working pressure of the features of unpleasant or dangerous working environment, which is named as the 'engineering approach'. The second approach defines the pressure in the normal physiological effects of various stimuli that are not pleasant or dangerous, which is designated as 'physiological approach's while a third approach to conceptualize the working pressure in the dynamic interaction between humans and their working environment. The third approach is called 'psychology'. In fact, according to the authors, the psychological approach to the definition of pressure is consistent with the definition of welfare as recommended by the World Health Organization (1986) who defines welfare as "a dynamic state of mind characterized by reasonable harmony between the capabilities, needs, expectations, and claims and an environment that opportunity "(Cox et al., 2000).

### ***Definition of occupational stress***

The occupational stress can be divided into acute stress (acute stress) and chronic stress (chronic stress). Chronic pressure arising from the imbalance between the demands of work and ability to cope with the demands that are usually associated with conditions at work are long. Acute Stress is usually associated with very high demands that were encountered in cases of emergency or other threatening situations (Flin, 1996).

While emergency workers may be involved in both chronic and acute stress, this study will only focus on chronic stress as it is expected that the effects of long-term sources of stress are most likely to impact the performance of firefighters as a whole. However the operational definition of the sources of stress based on *Sources of Occupational Stress* (SOOS) developed by oleh Beaton & Murphy (1993).

### **Definition of coping strategies**

Ability to handle pressure is a very important issue in everyday life. Each individual has their coping strategies in dealing with the pressure of its own that may differ from other individuals. Usually the differences of each individual coping strategy are based on the environment and experience the difference and the pressure faced by the individual. According to Moran (2001) coping strategies are very important to be studied. This is because it involves the evaluation to address the behavior and is a complex phenomenon that may also involve expectations about how one can control the source of the pressure of their work in the future. According to the Geen (1995), the definition of coping strategies can be broadly classified into three categories: 1) focus on the problem itself in order to vary the pressure at the source, (2) modify the meaning of the experience in a way that removes some or all of the characters is not fun, and (3) control the emotional consequences, the problems faced.

Findings related to coping strategies sometimes fail to achieve the proper effectiveness. However, based on the latest developments there are many ways of effective coping strategies have been introduced to address the problem of pressure (Mohammad Haji-Yusuf, AdiFahrudin, Mohd. Dahlan Haji A.Malek&Beddu Salam Baco, 2000, Long, 1993, Moran &Colless, 1995).Lazarus and Folkman (1988) divided coping strategies into two forms, namely, the problem focused coping (problem-focused coping) and emotion-focused coping (emotion-focused coping).The operational definition of the coping strategies is based on *The Coping Oriented to Problem Experienced* (COPE) developed by Carver, Cheier and Weintraub (1989).Problem-focused coping is seen as an effort aimed at changing the environment of an individual transaction in the pressure of managing resources, and while emotion-focused coping seeks to establish an emotional response generated by the situation (Folkman & Lazarus, 1980). Past studies indicate there are differences in the effectiveness of the strategies of both these coping strategies. Many researchers believe that these problems focused coping is effective for individuals who experience problems associated with signs of distress (Billings & Moos, 1984; O'Neill & Zeichner, 1985). However, many researchers believe that the strategy of emotion-focused coping is a useful strategy to cope.

### **The aims of the study**

The aims of the study is to examine the level of psychological health amongst firefighters, police and military in Sabah. The aims of the study as below:

1. To examine the relationship and influence of the sources of occupational stress and psychological health among emergency workers.
2. To examine the effectiveness of coping strategies among emergency workers

### **Method**

#### **Research Design**

This study uses a quantitative approach in the form of a survey study using questionnaires. But to get a clearer picture about his career as emergency workers like firefighters, police and military as well as the characteristics of their work, interviews were conducted. Quantitative methods used in this study is that based on past studies suggest that a survey questionnaire is one of the most accurate and efficient to obtain data for a particular respondent, such as emergency workers. This is because their working environment regardless of the time depending on the responsibilities they have to do. In addition, the findings of previous studies that examine related to psychological well-being and stress among professional firefighters and other emergency workers using quantitative techniques and these studies have been successful in producing significant results

#### **Subjects**

The subjects were 348 emergency workers: (102 fire fighters), police (96 police officers) and military personnel (150 military personnel) in Sabah, Malaysia. Subjects were chosen at random from several fire stations, military camps, and police stations in the vicinity of Kota Kinabalu, Sandakan, Tawau and LahadDatu, Sabah.

#### **Instruments**

This study used a questionnaire consisting of four parts, Part A collect socio-demographic information on the subject ,while Part B is a questionnaire Sources of Occupational Stress (SOOS)developed by Beaton and Murphy (1993)which seeks to measure the sources of stress. Part C is a questionnaire to Problem Oriented Coping Experienced (COPE), which was built by Carver, Cheier and Weintraub (1989) used to measure coping strategies.

Meanwhile Part D seeks to measure the pressure go round The Index of Clinical Stress developed by Hudson and Abell (1992).

Based on the pilot study on 55 emergency workers responded that these results indicate that the instrument has high reliability and validity. The result of pilot study shows in Table 1.

**Table 1: Cronbach alpha coefficients of the instrument SOOS, COPE and the Index of Clinical Stress**

Instrument	items	Cronbach Alpha
1. The Sources of Occupational Stress (SOOS)	51	.95
2. The Coping Oriented to Problem Experienced (COPE)	44	.91
3. The Index of Clinical Stress	12	.88

### Procedure

The study was conducted by four researchers, assisted by two research assistants. Prior to the study conducted, researchers have provided training to research assistants on the study procedures. Before the questionnaire is administered, the researchers apply for permission in writing from the concerned agencies such as police, firefighters, and military. After receiving permission, the questionnaires were administered at the respective agencies, assisted by officials from the agencies involved. Respondents were gathered in one place and were asked to complete the questionnaires.

### Result

#### I. Background

Table 2 below shows the categories of employment, tenure and age of the respondents who participated in the study. The largest number of job categories in the study were the military personnel of 43.1% (150 military personnel), followed by fire fighters 29.3% (102 fire fighters) and police 27.6% (96 police officers).

**Table 2: Socio- demography factors**

Factors	often	Percentage
Job categories		
1. Fire fighters	102	29.3
2. Police officers	96	27.6
3. Military personnel	150	43.1

#### Descriptive Analysis

Table 3 below shows the relationship between sources of stress with the stress levels experienced by emergency workers.

Table 3 shows that all sources of stress were positively correlated significantly with the stress experienced by emergency workers. This finding suggests that the higher a source of stress, the greater stress is felt

**Table 3: Pearson correlation coefficients of the relationship between sources of stress and the level of stress among emergency workers.**

Source of stress	N	r
1. Has no authority in carrying out	337	.399**
2. Lack of rest	322	.415**
3. Conflicts with other people	337	.352**
4. Concerns about job skills	321	.325**
5. Past the critical incident	335	.281**
6. Dangerous working conditions	323	.261**
7. Standard equipment is low	325	.256**
8. Lack of support from family / colleagues / organizations	324	.380**

\*\*  $k < .01$

Based on Table 4 shows that out of 11 coping strategies, only eight correlated significantly, while the other four showed no significant correlation with sustained stress.

**Table 4: Pearson correlation coefficients of the relationship between coping strategies with stress among emergency workers**

Coping strategies	N	r
1. Redefining and positive development	341	-.069
2. Back to religion	341	-.158**
3. Instrumental support	341	.107*
4. Plan	340	-.103
5. Active coping	340	-.084
6. Avoidance	340	.478**
7. Release behavior	339	.333**
8. Focused and calm emotions	340	.337**
9. Restraint coping	338	.260**
10. Humor	340	.352**
11. Termination of activity opposite	341	.181**

\* $k < .05$ , \*\*  $k < .01$

### III. Inference Analysis

Effect of pressure on the resources of the pressure.

Regression analysis was carried out to various extents to which the sources stress the role of stress levels experienced by emergency workers. There are eight sources of stress that acts as a predictor, while the forecast variable is the pressure experienced. The regression analysis found that the linear combination of the eight predictors was significantly associated with stress,  $F(8, 292) = 9.99$ ,  $k < .05$ . Correlation coefficients range  $R = .46$ , showed approximately 21.5% ( $.462 = .211$ ) variance of the pressure experienced by emergency workers are contributions from the eight sources of stress.

**Table 5: Sources of stress**

Sources of stress	Beta
1. Has no authority in conducting the task	.213
2. Lack of rest	.290**
3. Conflicts with other people	-.027
4. Concerns about job skills	.118
5. Past the critical incident	-.063
6. Dangerous working conditions	-.223
7. Standard equipment is low	-.004
8. Standard equipment is low	.146

\*\* $k < .01$

Table 5 shows the relative strength of the contribution of each of the sources of stress. Of the eight sources of stress were tested, only one source of pressure which contributes significantly less rest (beta = .29,  $k < .05$ ). Resources rest less pressure to contribute 8.40% ( $.292 = .084$ ) of variance of stress experienced.

### ***Influence of coping strategies on stress levels.***

Regression analysis was carried out to various extents to which coping strategies to minimize the stress experienced by emergency workers. There are eight coping strategies that serve as predictors, while the predicted variables are the pressure experienced. The regression analysis found that the linear combination of the eight predictors was significantly associated with stress,  $F(11, 321) = 15.28$ ,  $k < .05$ . Correlation coefficient  $R = .59$  different shows about 59% of the variance of coping strategies contribute in reducing the pressure experienced by emergency workers.

**Table 6: Beta distribution to see the impact of coping strategies**

Coping strategies	Beta
1. Turning to religion	-.124*
2. Instrumental support	-.070
3. Avoidance	.314***
4. Release behavior	-.055
5. Focused and calm emotions	.178**
6. Restraint coping	.056
7. Humor	.099
8. Termination of activity opposite	-.009

\* $k < .05$ , \*\* $k < .01$ , \*\*\* $k < .001$

Table 6 shows the relative strength of the contribution of each of the sources of stress. Of the eight coping strategies were tested, only three coping strategies to minimize the pressure that is significantly shifted to religion (beta = -.124,  $k < .05$ ), avoidance (Beta = .314,  $k < .05$ ) and focusing and calm the emotions (beta = .178,  $k < .05$ ).

### Discussion

Results showed that there was a positive correlation between the sources of pressure with the pressures faced by emergency workers. Lack of rest is the source of the pressure effect on the level of stress among emergency workers. These findings differ from the findings of a study conducted by Beaton (1993) and Malek, Mearns and Flin (2009) who found that fears of job skills as a major source of stress among emergency workers. These results differ because of the emergency workers working in Malaysia have a greater responsibility than in other countries. For example, firefighters, their work not just as a fire and rescue in disasters but also those involved in work which is considered outside the main tasks such as community work.

The results showed that higher stress among emergency workers, the less use of coping strategies to return to religion as a convenient source used during the pressure situations. These findings differ from the survey made by William, Larson, Buckler, Hechman and Pyle (1991), who conducted studies on 720 patients, and they find that religion is an effective strategy to deal with stress. Similarly, a study conducted by Koeng, Kohen, Blazer, Pieper, Meador, Shelp, Goli and Dipasquele (1992), over 850 patients, and they find that religion is an effective coping strategies to deal with depression and stress. In addition, the results showed that higher stress among emergency workers, the higher use of coping strategies denial by pretending they are not sustained pressure. The findings are consistent with a study conducted by Prati, Palestini, and Peatrantoni (2009) of the 1200 Emergency workers found that the coping strategy of denial was positively related to burnout. The study also found that higher stress among emergency workers, the higher the coping strategy of focusing and calming the emotions. This finding supports the findings of the study conducted by Prati, Palestini and Peatrantoni (2009), which focuses on coping strategies and to calm emotions have a positive relationship with burnout.

### Conclusion

This study has revealed the sources of stress and coping strategies used by emergency workers. The result of the study indicated that the sources of occupational stress have significant positive correlations with job stress. The study also found that the relationship between the sources of stress and coping strategies were significantly positively related. The relationship between the sources of stress and the psychological well-being also showed a significant positive correlation.

These findings provide some implications for the human resource department of the emergency workers to establish a counseling unit in order to deal with psychological problem faced by the emergency workers.

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