

Factors Contributing to Stress Levels of Emergency Dispatchers

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ABSTRACT

Introduction: There is now substantial research literature on the occupational stress among emergency dispatchers from multiple studies that have cited dispatcher claims of significant emotional, mental, and physical stress as a result of their work. However, there is very little literature that ranks in order of prevalence or severity the factors contributing to overall stress specific to emergency dispatchers. The aim of this study is to collect data that will complement other research findings in this field to inform the development of new programs designed to address specific factors contributing to dispatch stress and build better psychological health among this group.

Objectives: The objectives of this study are to determine levels of perceived stress amongst voluntary participants and to determine commonalities amongst participants in regard to factors they named as contributing to that perceived stress and type of courses taken to mitigate stress.

Methods: The pilot study was conducted at Snohomish County 911 and the participant pool included all emergency dispatchers on staff. Participants self-selected as participation was voluntary; answers were provided anonymously. The survey included a 10 question Perceived Stress Scale (PSS), demographics questions, and the main survey question pertaining to factors the participant believed contributed to their stress. Participants were provided with information for Peer Support, EAP and other resources in the event that the survey triggered unpleasant connections to situations suggested by the terms listed. The main survey question included a freeform text box for participants to input their answer and then content analysis was used to analyze the feedback. The self-reported factors contributing to the emergency dispatchers' stress was then ranked (per PSS) in order of prevalence. Demographic data was summarized using descriptive statistics.

Results: Of the 75 participants, the top responses given for factors contributing to their stress relate to issues with managers, work/life balance and overtime and/or schedules, followed by health or family issues and stress resulting from different aspects of the job.

Conclusion: The study findings showed that personal and family demands, and job demands are closely ranked as the top causes of emergency dispatch stress. In future research, demographic questions relating to emergency communications center location, size and disciplines should be considered to facilitate further extrapolation of the data.

Keywords: Dispatcher stress, dispatcher-perceived stress factors, stress management, emergency dispatch.

INTRODUCTION

High workload, performance monitoring, long periods of stationary activity, staff shortages, inconsistent leadership styles, dealing with co-workers, and the feeling that different rules apply to different people are factors contributing to job stress and common among emergency dispatchers, regardless of which emergency service they are supporting.¹

The stressors present are associated with negative physical and psychological outcomes, including reduced job satisfaction, poorer work performance and increased emotional exhaustion. Employment involving shift-work, also notable in emergency dispatch, has been linked to increased health risks, including gastrointestinal disorders and cardiovascular disease, and poor sleep quality, burnout, chronic fatigue, and anxiety.²⁻³ A study assessing duty-related exposure

to potentially traumatic calls showed that telecommunicators reported high levels of peritraumatic distress and a moderate, positive relationship was found between peritraumatic distress and Posttraumatic stress disorder (PTSD) symptom severity.⁴

While methods to reduce factors contributing to stress and suboptimal personal health differ in focus, several studies suggest that workplace health promotion is an effective way to benefit the employer and employee.

The AFLAC WorkForces study examining the prevalence of wellness programs and their impact on worker satisfaction found that workers who are offered wellness programs and take part in those programs are significantly more likely to be satisfied with their job, feel positively towards their employer, and consider their well-being better protected, compared to workers who aren't offered wellness at all.⁵

A study by Towers Watson and the National Business Group on Health shows that organizations with highly effective wellness programs report significantly lower voluntary attrition than do those whose programs have low effectiveness (9% vs. 15%).⁶

Contrary to anecdotal evidence of high returns, however, workplace wellness programs are not the norm. The 2004 National Worksite Health Promotion Survey showed that only 7% of employers offered comprehensive programs of the type specified in the recommendations of the Institute of Medicine report Healthy People 2010.⁷ These recommendations include health education, policies both reflecting an organization's expectations and promoting healthy behaviors, and screening programs linked to medical care to ensure follow-up.⁸

Guidance to developing effective employee wellness programs starts with understanding the factors causing stress in the work/life balance. The purpose of this research focuses on gathering information via an online survey from a specific population of emergency dispatchers and, from that information, developing targeted wellness programs. If successful, meaning the programs developed are found to contribute to a more favorable work/life balance, the type of survey used can be adopted by other agencies to benefit their emergency dispatchers.

OBJECTIVES

The objectives of this study were to determine levels of perceived stress amongst emergency dispatchers and to determine commonalities amongst participants regarding factors they named as contributing to that perceived stress and the type of courses taken dispatchers to mitigate stress.

METHODS

Study design and setting

This was a prospective, anonymized, online survey involved emergency dispatchers at one emergency communications center, Snohomish, County 911, Everett Washington, USA.

Sample size determination

A convenient sample of all emergency dispatchers at Snohomish County 911, who consented—via an online consent form were included in the study. Participation was strictly

voluntary. There was no threat of harm, job loss, or other adverse consequence for the dispatchers declining an open invitation to complete the survey. There was no compensation offered—monetary or otherwise—to the dispatchers providing consent to participate.

Perceived Stress Scale

The Perceived Stress Scale (PSS) is a validated psychological instrument used widely for measuring the perception of stress—the degree to which situations in one's life are appraised as stressful.⁹ The scale includes a number of direct queries about current levels of experienced stress. Cohen et al (1983) emphasize that the PSS is a recommended tool for examining the role of nonspecific appraised stress in the etiology of disease and behavioral disorders and as an outcome measure of experienced levels of stress. The PSS comprises 10-item questionnaire of positively and negatively phrased items and it uses a 5-point Likert Scale (0-never 1-almost never 2-sometimes 3-fairly often 4-very often) to assess perceived stress.

Outcome measures

The outcome measures were the types of dispatcher-perceived factors that contribute to their level of stress, perceived stress score, and the type of stress management courses dispatchers have taken to manage their stress.

Data Analysis

Descriptive statistics such frequency and percentages were used to characterize dispatchers' demographics, distribution of dispatcher-perceived top factors that contribute to the levels of stress, perceived stress score, and stress management courses dispatchers have taken.

RESULTS

Of the total 93 emergency dispatchers at the 911 emergency communication center, a majority 80.6% (n=75) participated in the study (Table 1). Of the 61 participants who answered the demographics questions, 60.7% were female and 39.3% were male, most were age 25-54 years old (85.3%), had at least some college education (80.4%), and had less than 15 years of service (59.9%)

EMD, emergency medical dispatcher; EFD, emergency fire dispatcher; EPD, emergency police dispatcher; EMS, emergency medical services

Of the 60 dispatchers who responded to the 10 questions on perceived stress, a half of them indicated they had moderate stress, followed by low stress (36.7%) and high stress (13.3%) (Fig. 1). Further analysis did not find any significant differences in PSS by dispatcher gender, age, or education level. Nevertheless, among dispatchers who perceived they experienced moderate or high stress levels, the ones who demonstrated the highest proportions were: female (68.0%), age 25-34 and 45-54 years (34.2%, each), those who had 0-5 years length of service (37.8%) and had some college education (59.5%).

Participants were asked to list the top 3 factors they perceived as contributing to their stress levels. The top responses given relate to personal or family/relationship issues and issues with different aspects the job itself (Figure 2). Others were schedule and overtime assignments, work/life balance and management.

Of the 42 responses categorized as Personal or Family/relationship, Sleep was the top answer (n = 14) (Figure 3). Relationship and family issues such as those stemming from divorce, children, significant others were mentioned 12 times.

Measure (number of respondents)		n (%)
Gender (n=61)	Female	37 (60.7)
	Male	24 (39.3)
Age (years) (n=61)	<18	0
	18-24	4 (6.6)
	25-34	23 (37.7)
	35-44	14 (23.0)
	45-54	15 (24.6)
	55-64	5 (8.2)
Education level (n=61)	High school	1 (1.6)
	Associate degree	11 (18.0)
	Some college	33 (54.1)
	Bachelor's degree	16 (26.3)
Length of service (years) (n=61)	0-5	25 (41.0)
	5-15	21 (34.4)
	15+	15 (24.6)

EMD, emergency medical dispatcher; EFD, emergency fire dispatcher; EPD, emergency police dispatcher; EMS, emergency medical services

Table 1. Demographic of participants

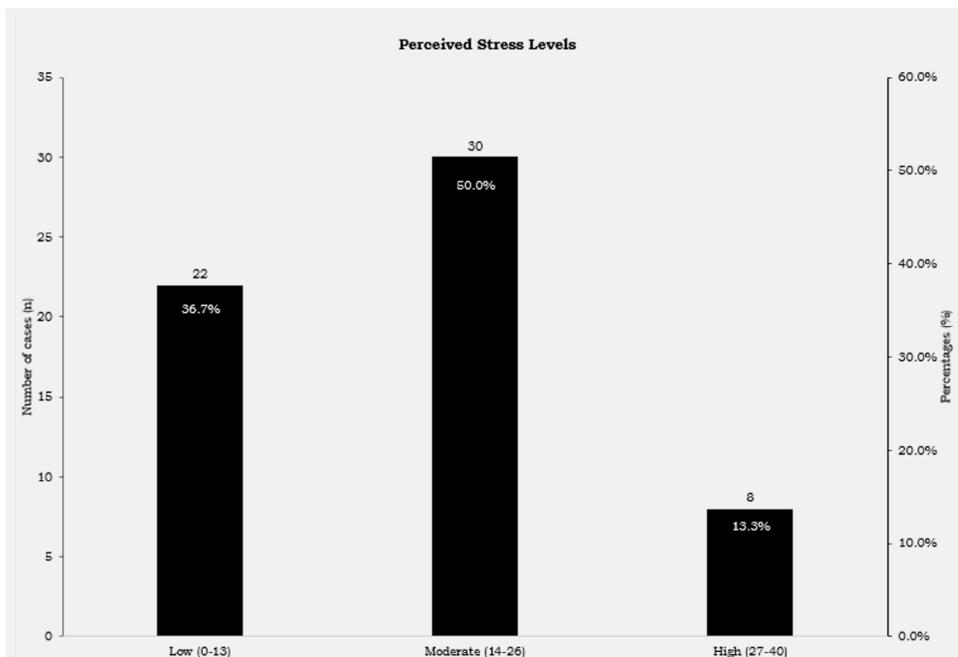


Figure 1. Distribution of emergency dispatcher-perceived stress levels

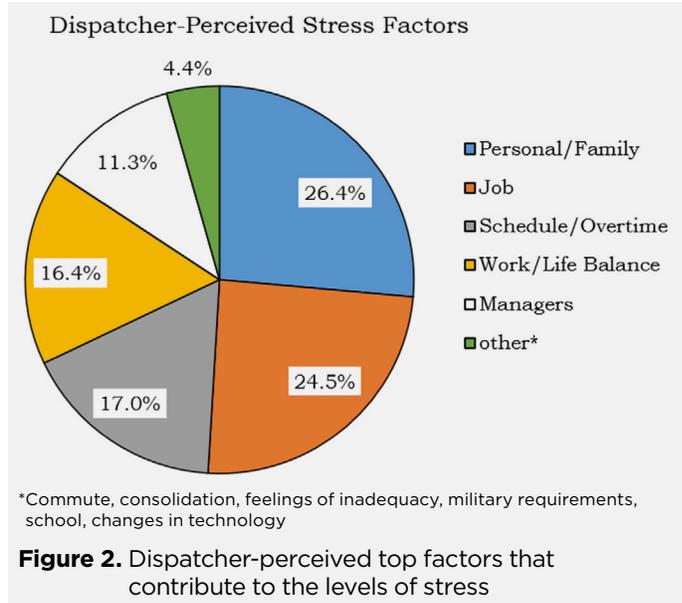


Figure 2. Dispatcher-perceived top factors that contribute to the levels of stress

Remaining responses in the Personal or Family category included subjects such as physical health, mental health, legal and financial issues, as well as keeping up on housework.

Participants also cited factors associated with the job itself (n = 39), including call volume and workload (n = 9), and training (both the lack thereof and the introduction of new training) (n = 7) (Figure 4). The expectations surrounding the adherence to policy and procedure were mentioned 5 times, as were stressful calls/callers. The responsibility of the role played in responder and public safety was named as a factor 3 times, with stress relating to subordinates mentioned once.

Additionally, answers citing schedules and overtime as stressors accounted for 17% of all responses, followed closely by factors relating to work/life balance (16.4%). Management involvement, communication and/or decisions were mentioned in 11.3% of responses.

The study results showed that a majority 69.8% of the participants had not taken any course relating to stress management and 13.2% did not name if they had taken a course (Table 3). However, a small percentage of participants have taken some course with disaster management and response institutions or did their own personal readings.

DISCUSSION

The study findings demonstrate that the top responses given for perceived factors contributing to dispatcher stress relate to issues with person or family relationship, different aspects

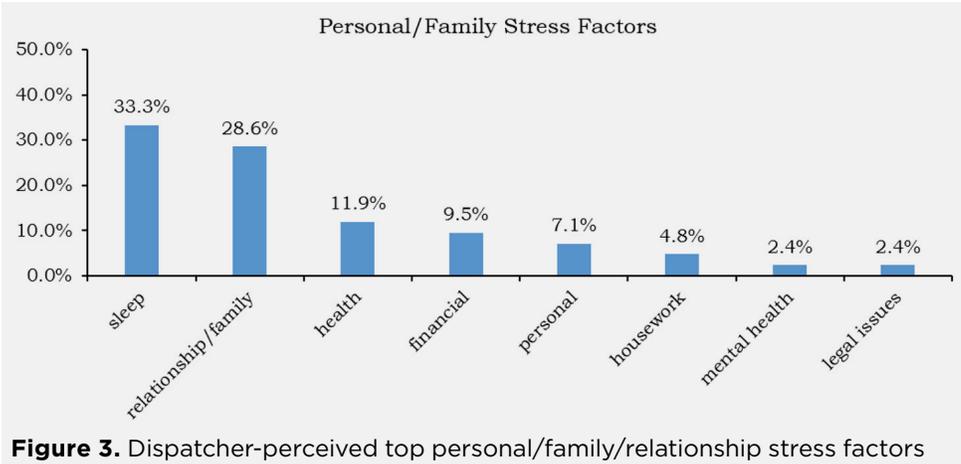


Figure 3. Dispatcher-perceived top personal/family/relationship stress factors

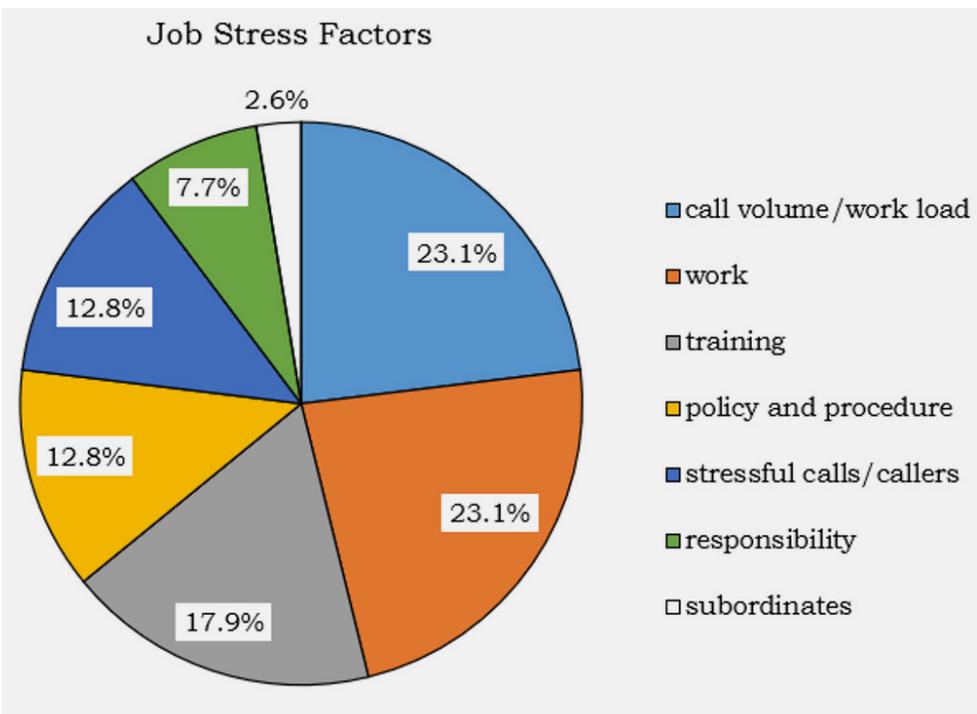


Figure 4. Dispatcher-perceived top job-related stress factors

and effective decisions, working on shift with 24/7 coverage, and managing difficult emotions.^{10,11} Unresolved and untreated stress resulting from cumulative factors can negatively impact an emergency dispatcher's life, and stress manifests in six different areas: physical, mental, emotional, relational, behavioral, and spiritual well-being.¹²

Results indicate personal and family demands are the number one cause for emergency dispatcher related stress. Issues such as those stemming from divorce, children, significant others were mentioned by 28% of the 42 respondents categorizing personal and family demands among the top three causes of stress. Other causes in the personal and family category included physical health, mental health, legal and financial issues, as well as keeping up on housework.

Job demands ranked a close second to personal and family demands (26.4% and 24.5%, respectively), and these factors included call volume and workload. At times telecommunicators are required to handle multiple active incidents at once, prioritizing all incoming requests and moving between incidents quickly and efficiently. Furthermore, the frequency of 911 calls cannot be predicted or controlled, so a telecommunicator has no

Course Taken	(N=53) n (%)
None	37 (69.8)
College	4 (7.5)
Personal reading	2 (3.8)
CISM 1	1 (1.9)
FEMA	1 (1.9)
Stress in 911	1 (1.9)
Unnamed	7 (13.2)

CISM, Certified Information Security Manager FEMA, Federal Emergency Management Agency

Table 3. Stress management courses dispatchers have taken

of the job, overtime and/or schedules, work/life balance, and managers. As articulated in related work, emergency work in general, whether on the front lines or working behind the scenes as an emergency dispatcher, is often characterized by several requirements: working under pressure, multi-tasking, making rapid

warning what the next call may bring. Many times, after a high priority or potentially traumatic incident has concluded, the telecommunicator is expected to move on to the next call with little-to-no respite. Additionally, schedules and overtime as stressors accounted for 17% of all responses, followed closely by factors relating to work/life balance (16.4%).

The close ranking of personal and family demands, and job demands raises the question of the influence of the job (e.g., overtime) on personal and family relationships. Is there a correlation? In addition to the usual marital issues, the onset of posttraumatic stress disorder (PTSD) symptoms and subsequent behavior and/or problematic attempts to cope can contribute to a breakdown in relationships and interfere with a work/life balance; however, the study does not connect the two categories other than as top causes of stress.

The study participants were asked to complete the Perceived Stress Scale, a standard questionnaire used to measure the subject's perceived stress. Half of the participants indicated they had a moderate level of perceived stress and 13.3% indicated "high stress." A majority of participants in this study most often felt confident they could handle personal problems, that they were able to control irritations in their lives, felt things were going their way, and felt "on top of things." However, a majority of participants also stated they were nervous and stressed and most felt that sometimes they got upset when something happened unexpectedly (Figure 1). The study findings showed that a substantial number of participants never felt difficulties were piling up so high that they could not overcome them and were never angered because of things that had happened outside of their control.

The confidence factor proposes various interpretations. For example, the perceived minimal effect of stress could be related to a subliminal resistance of seeking help due to the denial of certain benefits because of their job classification; dispatcher "bravado"—acknowledging the stress, but say they are strong enough to handle it; or a high-level of self-esteem that mitigates stress-related symptoms. It could also be due to the fact that by design, the profession of dispatch comprises of complex occupational stress.¹³

The bravado and a high-level of self-esteem could indicate that these particular study participants have the tools necessary at their disposal for building confidence and self-esteem, such as their center providing them with resources that contribute to resilience and high job performance. Self-esteem is often defined as an individual's self-perception of his/her abilities, skills, and overall qualities that guides and/or motivates specific cognitive processes and behaviors.¹⁴ Self-esteem is an important coping resource.

This brings up an interesting approach to the causes of stress and mitigating factors. The ability to handle the challenges of emergency dispatch could very well depend on factors such as education level, certification, and training. These domains call for further research. Additionally, the question "What are the standards that lead to an individual's successful adaptation to a profession often viewed as stress-inducing?" lead to further research into factors that build confidence. A multiple agency study could compare requirements for emergency dispatcher's certification, continued education, mentoring, and other factors that motivates specific cognitive processes and behaviors.

Limitations

Various possible interpretations indicate the study's limitations. The study sampled a small number of participants and all who are working in the same communication center. While they bring different educational levels to the job, it is assumed that training, certification—and other factors available upon hire—are consistently applied. However, the research is unclear whether the level of training—and other factors—have an impact on resilience and coping with emergency dispatch personnel. The research is also unclear

whether adequate support is available to personnel if they are receiving the support to cope within the organization.

This study relied on voluntary participation and self-reported data. The potential for response bias in self-reported data may be attributed to the subject's "misunderstanding of what a proper measurement is" or "social-desirability bias, where the respondent wants to 'look good' in the survey, even if the survey is anonymous."¹⁵

CONCLUSION

The study findings demonstrated that personal and family demands, and job demands are closely ranked as the top causes of emergency dispatch stress. While there is an element of bravado common among emergency dispatchers, the study indicates a lack of opportunities or lack of interest to participate in stress reduction training.

There are many avenues to be explored in further study on the topic of telecommunicator stress. First and foremost, a larger sample size of telecommunicators from different agency sizes and types, would provide more data to analyze. For the future study, coding categories determined in the analysis of this pilot study will be used, with additional categories added as needed. In such studies, demographic questions relating to emergency communications center location (with the possibility of studying international centers as well), call volume and disciplines should be considered to facilitate further extrapolation of the data. Questions relating to the subject's previous public safety or military background could provide data on the differences between those with or without experience and its impact on their perceived stress.

Another possibility for further study could include a long-term/multi-year study to follow changes in stressors and stress levels. A long-term study could also be used to examine the correlation between job stressors and their impact on the subject and/or their personal life.

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