

# Comparing work-related stress and stress reactions in American and Canadian EMS personnel



Donnelly, E. A.<sup>1</sup>, Bradford, P.<sup>2</sup>, Rodriguez, S.<sup>2</sup>  
University of Windsor<sup>1</sup>;

London Health Science Centre- Southwest Ontario Regional Base Hospital Program<sup>2</sup>



## Introduction

There are many similarities in how EMS services are provided in the United States and Canada, however significant structural and systemic differences in service provision exist.

While extant literature has linked workplace stress to stress reactions in EMS personnel, virtually no attention has been given to exploring how those stresses and stress reactions may be influenced by the differences in the American and Canadian EMS systems.

## Objective

The goal of this study was to assess if there are differences in work-related stresses and stress reactions in American and Canadian responders.

## Methods

Two online surveys were conducted utilizing the same instruments.

In 2009, a probability sample of 12,000 Nationally Registered EMTs and paramedics were surveyed, with a 13.6% response rate ( $n=1633$ ).

In 2011, paramedics in a municipally-based service in southwest Ontario were surveyed with a 54% response rate ( $n=145$ ).

## Measures

Respondents reported levels of

- operational chronic stress
- organizational chronic stress
- critical incident stress
- posttraumatic stress symptomatology (PTSS)
- alcohol use
- demographic characteristics.

T-tests and chi-square analyses were used to assess for significant differences.

## Results

American responders reported higher mean levels of operational stress (39.0 vs. 31.4;  $\Delta 7.6$ ; 95% CI: 5.5, 9.7).

Canadian responders reported higher levels of alcohol use (5.9 vs. 4.3;  $\Delta 1.6$ ; 95% CI: 0.9, 2.4).

No significant differences were identified in organizational stress, critical incident stress, or PTSS.

Significant demographic differences were also identified:

- American responders were significantly younger (35.1 vs. 38.3;  $\Delta 3.2$ , 95% CI: 1.3, 5.1),
- Americans had fewer years of experience in EMS (9.2 vs. 13.8,  $\Delta 4.6$ , 95% CI: 2.7, 6.5),
- Americans worked more hours weekly (4.1 vs. 3.9;  $\Delta 0.3$ ; 95% CI .01, 0.4),
- Americans reported lower income (3.6 vs. 6.7;  $\Delta 3.1$ ; 95% CI 2.8, 3.4).

## Limitations

- Non-experimental design
- Modest response rate
- Not generalizable
- Open to non-response, self report, and recall biases

## Conclusion

Significant variations were identified in self-reported operational stress, in alcohol use and in demographic factors.

The higher levels of operational stress in Americans may be the result of the increased number of hours at work, fewer years of experience, and lower wages.

More investigation is needed to explicate how systemic differences in EMS systems influence EMS personnel.

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If you have questions or would like more information, please contact Dr. Elizabeth Donnelly at [donnelly@uwindsor.ca](mailto:donnelly@uwindsor.ca)