

# A novel measure to capture transactional stress in Paramedic Services

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## Introduction

In the past few years, there has been an increase in awareness of the challenge of managing work related stress in EMS.

Extant research has linked different types of chronic and critical incident stress to stress reactions like posttraumatic stress.

However, there is no tool to capture the transactional stresses. Transactional stresses are associated with the day to day provision of service (e.g., dealing with offload delays) and interacting with allied professions (e.g., law enforcement) experienced by paramedics.

## Objective

The purpose of this study was to develop and validate a measure which captured transactional stresses in paramedics.

## Methods

An online survey was conducted with ten Canadian Paramedic Services with a 40.5% response rate (n=717).

Respondents were asked how much stress each item had caused in the last six months. Items were scored on a 7-point Likert Scale, with response options 1= No stress at all to 7= A Lot of Stress

The scale was validated using both exploratory and confirmatory factor analyses.

## Results

The sample was split to allow for multiple analyses (EFA n=360/ CFA n=357).

In the exploratory factor analysis, principal axis factoring with an oblique rotation revealed a two-factor, twelve item solution, (KMO = .832,  $\chi^2 = 1440.19$ ,  $df = 66$ ,  $p < .001$ ).

Confirmatory factor analysis also endorsed a two factor, 12 item solution, ( $\chi^2 = 130.39$ ,  $df = 51$ ,  $p < .001$ , CFI = .95, TLI = .93, RMSEA = .07, SRMR = .06).

The factors demonstrated good internal reliability ( $\alpha = .843/\alpha = .768$ ). Both factors were correlated ( $p \leq .01$ ) with a convergent validity measure

## Scale Items

### Internal Transactional Stress

Being on standbys  
Offload delays  
Dealing with 'frequent fliers'  
Dealing with dispatch  
Patients using EMS for non-emergent reasons  
Being held over at the end of a shift (mandatory overtime)

### External Transactional Stress

Dealing with the police department  
Dealing with the base hospital  
Dealing with the charge RN at Emerge  
Dealing with the MDs in Emerge  
Dealing with the primary (handover) RN at Emerge  
Dealing with firefighters

## Conclusion

This study successfully validated a two-factor scale which captures stress associated with the day to day provision of EMS and the interaction with allied professions.

The development of this measure of transactional stresses further expands the potential that paramedics, Paramedic Services, employers, and prehospital physicians understanding of the dynamics that influence provider health and safety. and well-being.

## Implications for Future Research

Using this research, there may be greater opportunities to intervene holistically to improve paramedic health

## Limitations

- Exploratory research which must be validated in other samples.
- Vulnerable to non-response and social desirability bias

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## Questions?

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