Stress Within, Stress Between

New Insights into the Daily Occurrence of Stress and Burnout

&

How We Got Here…

David King, PhD | January 16, 2014
Today’s Goals

1. **NEW INSIGHTS**: Present a summary of findings from the Paramedic SCOPE Study.

2. **HOW WE GOT HERE**: Take a look at methods, with a focus on trials & tribulations in study conception, design, & implementation.
Not that kind of “scope”…

Ran from 2011 (March) to 2012 (February)
The Contagious Nature of Stress
87 dyads (66 mrd)

Medics: 71 M, 16 F, 42 yo, 15 yrs working as medic

Spouses: 75 F, 12 M, 41 yo, 13 yrs in rel’p, 12 yrs cohab
Intensive Longitudinal Design

In addition to a battery of questionnaires...

- Dyads completed daily diaries 2-3 times daily for a period of one week (consisting of both work and non-work days).

  - Daily measures of:
    - Sleep quality & duration.
    - Mood, stress, & burnout.
    - Tension & conflict.
    - Support & satisfaction.
    - Stressful event & coping.
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  - Support & satisfaction.
  - Stressful event & coping.

T1 – Upon Waking
T2 – After Work (Medics Only)
T3 – Before Bed
Findings
Cross-Sectional Analyses

Paramedics:

- CES-D: 44% reported clinically significant levels of depressive symptoms.
- PCL-C: 29% reported PTSD symptoms in clinically significant range.
- MBI: 74% reported 1 or more symptoms of burnout in high range.

King, D. B., & DeLongis, A. (manuscript under review). How was your day? The daily transmission of work stress in paramedics and their spouses.
Findings
Multilevel Analyses of Spillover

Paramedic Effects

T2 Negative Affect
T2 Perceived Stress
T2 Work Burnout

WORK

Controlling for T1 Negative Affect/Perceived Stress

T3 Negative Affect
T3 Perceived Stress

HOME

King, D. B., & DeLongis, A. (manuscript under review). How was your day? The daily transmission of work stress in paramedics and their spouses.
Findings
Multilevel Analyses of Crossover

Controlling for T1 Perceived Stress

King, D. B., & DeLongis, A. (manuscript under review). How was your day? The daily transmission of work stress in paramedics and their spouses.
Findings
Multilevel Analyses of Crossover

Spouse Effects

WORK

Paramedics’ T2 Burnout

HOME

Controlling for T1 Marital Tension

Spouses’ T3 Marital Tension

King, D. B., & DeLongis, A. (manuscript under review). From the frying pan to the fire: Neuroticism and the impact of occupational burnout on day-today marital tension.
Findings

Time-Lag Effects

Predicting next-day $T_1$ negative affect & stress...

Paramedic Effects

- Paramedics’ work-related ($T_2$) stress predicted increased negative affect and stress next day.
  - Controlling for previous day’s negative affect and stress ($T_3$) before bed.

- Burnout ($T_2$) predicted increased stress next day.
  - Controlling for previous day’s stress ($T_3$) before bed.

Spouse Effects

- Next-day crossover not significant.

King, D. B., & DeLongis, A. (manuscript under review). How was your day? The daily transmission of work stress in paramedics and their spouses.
Findings
Subsequent Coping & Tension

- Regarding work-related antecedents of coping at home:
  - T2 paramedic work stress predicted increases in paramedics’ rumination ($\beta = .24^{**}$) and withdrawal ($\beta = .15^*$).
  - T2 paramedic burnout predicted a subsequent increase in spouses’ withdrawal ($\beta = .09^{**}$).

- Regarding outcome/effectiveness of coping for marital tension:
  - Paramedic rumination predicted increased marital tension for both paramedics ($\beta = .41^{***}$) and spouses ($\beta = .16^{**}$).
  - Spouse withdrawal predicted increased tension for spouses ($\beta = .47^{***}$).

Findings
Subsequent Coping & Tension

Level 1 interactions b/w paramedic rumination & spouse withdrawal, predicting marital tension.

Interaction between paramedics’ T3 Rumination and spouses’ T3 Withdrawal, predicting paramedics’ T3 Marital Tension.

Interaction between paramedics’ T3 Rumination and spouses’ T3 Withdrawal, predicting spouses’ T3 Marital Tension.

Findings

What about the work partner?

1. FOR PARAMEDICS: Higher perceived support from work partner at T2 predicted increased marital satisfaction with spouse later that day ($\beta = .30^*$).
Findings
What about the work partner?

2. FOR PARAMEDICS: Higher perceived support from work partner at T2 *almost* predicted increased support provided to spouse later that day ($\beta = .21$, $p = .076$).
Findings
What about the work partner?

3. FOR SPOUSES (IN BC ONLY SAMPLE): Higher tension with work partner at T2 (reported by paramedics) predicted decreased marital satisfaction for spouses later that day ($\beta = -.15^*$).
Connecting Contexts & Next Steps

Role of other key individual differences?

Other contexts?
Other relationships?
7 LESSONS IN INQUISSION

Or...“How We Got Here and Some of the Things that Happened Along the Way”
Lesson 1
Plan, plan again, and re-plan.

- We started planning this study in 2008.
- Data collection began in 2011.

- *What were we doing that whole time?*
  - Background research on population.
  - Deciding on most efficient means of data collection.
  - Getting funding.
A few big decisions early on…

- Collect cortisol?
  - Came down to our primary questions and relevance.
- How many time points per day?
  - Collect responses from participants while at work?
  - Collect responses after every call?
- Use Palm Pilots? (Yes, I said Palm Pilots.) Electronic time stamps? Or go online?
Lesson 2
Be flexible when you need to be.

- The sacrifice of the work dyad.
  - And by extension, the sacrifice of the triad and ‘quadrad.’

- But we knew our priority – spousal dyads.

- Know when to give up on some things.
Lesson 3
Think daily, for everything.

- Your most important study variables should be considered for daily administration (if you’re doing an intensive longitudinal design).

- Case in point: BURNOUT

- Regrets? YES – did not develop a clear measure of PTSD on a daily basis, although could piece a few things together.
Developing a Daily Measure of Burnout

**Burnout**

*Maslach Burnout Inventory (Maslach & Jackson, 1981)*

*MBI-HSS (emphasizes relationship to recipients of care at work)* – highest loading items across subscales (numbered by size of loadings):

- **Emotional Exhaustion:**
  - “I feel burned out from my work.” (1)
  - “I feel like I’m at the end of my rope.” (2)

- **Depersonalization:**
  - “I’ve become more callous toward people since I took this job.” (3)

- **Personal Accomplishment:**
  - “I feel exhilarated after working closely with my recipients.” (3)

*Rewording for Daily Diary:*

- “At the end of your rope.” (No significant rewording.)
- “Burned out from your work.” (No significant rewording.)
- “Callous towards people.” (Reworded to apply to all people for off-work days.)

NOTE: Personal Accomplishment item not included in daily diary due to overlap with vigour measure.
But is this valid?

- Sure. Why not?

- Progressive trends in psychology to conceptualize traits as encompassing both within-person stability and within-person variability.

  - Fleeson (2001): traits as density distributions of states.
Lesson 4
Always go online, even just a bit.

- IMO, the Internet should be used in EVERY study, to some degree, no matter what.

- Why?
  
  - At the very least, it is a sign of professionalism – we live in a digital age, and in this age all professional endeavors have an online presence.

  - People (i.e., potential participants) expect it.
A Study Website & Original URL
www.medicscope.com

Welcome!
For more information on this project, please use the menu above.
To participate in the study, follow the links below.

All participants will receive a $40 gift card!

New and interested in participating? Start here!
Interested? Get Started! Click here to qualify.

Are you a paramedic working in Canada?
Are you and your spouse or work partner interested in how stress impacts your health & well-being?
If so, you may like to participate in a research study examining how paramedics experience job-related stress on and off the job. We are attempting to gain a broader scope of information about the unique forms of stress experienced by Canadian paramedics and their families. We are interested in understanding how paramedics cope with this work stress on and off the job. If you have a spouse or romantic partner with whom you live, we are interested in their participation as well.

Follow us on Facebook and receive important updates and news about our progress!
Your Facebook username & profile pic will NOT be visible to other members.

PLEASE NOTE: This project has no affiliation with any EMS service, members of management, or any of its affiliated unions. We operate as independent researchers under the guidelines of the UBC Research Ethics Board, and are funded by a single internal grant from the University of British Columbia. No funds of any kind have been received from EMS services, nor have any requests been made on their behalf to operate the study in any particular manner. Some services have, however, been kind enough to distribute emails and paper advertisements on our behalf.

Centre for Health & Coping Studies

UBC - a place of mind
Using Online Questionnaires

- Even repeated, daily questionnaires can be done online.
  - Except in cases of experiential sampling, GPS tracking, or responses in a variety of contexts, online surveys may be your easiest option.

- Remember, you don’t have to sit at a computer to access the Internet nowadays!
  - Completing online questionnaires on smart phones & tablets.

- No need to use Survey Monkey.
  - The Psychology Department has its own *free* web survey system.
**SCOPE Study Daily Diary (After Work - Medics Only)**

Your Mood

<table>
<thead>
<tr>
<th>Did you experience the following emotions while at work?</th>
<th>Not at all (1)</th>
<th>A little bit (2)</th>
<th>Moderately (3)</th>
<th>Quite a bit (4)</th>
<th>Extremely (5)</th>
<th>No answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxious</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Sad</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Angry</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Fatigued</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Vigorous</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Tense</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Hopeless</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Resentful</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Worn Out</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Cheerful</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Nervous</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Discouraged</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Annoyed</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Exhausted</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Lively</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Automate the entire process.

Online, you can...

- Advertise to and recruit potential participants.
- Have participants provide consent.
- Collect data from survey responses.
- Transfer data directly to SPSS.

Benefits? Cost effective, immediate, and rapid.
Lesson 5
Make use of social media.

Facebook is your friend!

*Compared to?*
Print ads, brochures, posters, etc.

Twitter is just an acquaintance...

And Google is love/hate.
A Study Facebook Page
https://www.facebook.com/medicscope

UBC Paramedic S.C.O.P.E. Study

Educational Research
Updates and news related to the UBC Paramedic SCOPE Study, an investigation of stress and coping across occupational & personal environments in Canadian medics.

About – Suggest an Edit

UBC Paramedic S.C.O.P.E. Study shared a status.
April 23, 2013

UBC Paramedic S.C.O.P.E. Study

Friends
Like UBC Paramedic S.C.O.P.E. Study
Targeted Facebook Advertising

Facebook allows you to target advertising based on:

- Location (city, country)
- Sex (M/F)
- Age / Age Range
- Relationship Status
- Level of Education
- Occupation (limited)
- Interest (enormous potential)
Targeted Facebook Advertising

Which image performed best?
Monthly Facebook ad clicks and responses received.

King, D. B., O’Rourke, N., & DeLongis, A. (manuscript under review). Rapid and cost-effective online recruitment and participant data collection: How social media can be used to recruit hard to reach, low prevalence and invisible populations.

$r = .67$

$(p < .05)$
Lesson 6
Somebody always gets upset.

- We had a lot of negative reactions to the study from part-time paramedics.
  - And even paramedics who were not in a cohabitating relationship.
  - Why? Eligibility requirements ultimately omit some people.
Thank you for getting back to me regarding your study on stress with BC Paramedics, however I find your requirements disturbing. I have been a Paramedic in a small community for 11 years now, there are many rewarding times and many difficult times. Just because my husband does not want to participate in your study should not be a factor in my participation and just because I do not work with the same partner that should not be a factor in your study. There are more part time Paramedics than full time and we deal with stress on the job every time our pager goes off. I'm sorry if you feel that someone like my self does not fill your requirements in your study, this is your loss.
I was disappointed in the fact that your results were posted on FACEBOOK. It is hard to take the whole thing seriously now. I still haven't read the findings. I do not allow Facebook access to my life. You have marginalized your work.

The payoff in being in a study is seeing your input treated with respect. I don't "like" your treatment of my work.
Lesson 7

Participants are people, too.

- As researchers, we should be trying to create a positive research experience for participants.
  - Have an online presence (but be classy about it).
  - Use first name in all communications (to whom it may concern).
  - Offer daily reminders by email and text message.
  - Be diligent about participant communication & troubleshooting.
  - Adequate honorariums & personalized thank-you letters.
  - Communicate summary of findings to participants.
Think outside the dissemination box. It’s not all about conferences & pubs...

Stress and Coping across Occupational and Personal Environments (SCOPE) in Canadian Paramedics and their Spouses

Research Summary

Marissa Y. Mac, David B. King, & Anisa DeLongis
1/1/2014

Preliminary Findings

A number of other variables were assessed in this research, including burnout, post-traumatic stress, depressive symptoms, and self-reported health. Select findings are discussed below, while others will be reported in forthcoming publications in academic journals.

Please visit www.ubcgradselp.org/cope, where we will provide updates and abstracts to all subsequent publications. We have included in this report the information that we believe is of greatest relevance to paramedics and their spouses.

Occupational Burnout

Burnout is a measure of mental and physical exhaustion that results from chronic work stress. It is comprised of three factors: emotional exhaustion, depersonalization, and an impaired sense of personal accomplishment. Burnout is often associated with decreased job performance, and has been shown to lead to increased absenteeism and higher turnover.

In the current sample of paramedics, 74% reported high burnout on one or more of the three factors (according to recommended cut-off values), with 14 paramedics reporting high burnout on all three factors.

When comparing rates of burnout to normative data from North American nurses and physicians, paramedics in the current sample were more emotionally exhausted and reported lower levels of personal accomplishment. This suggests that these paramedics are experiencing a great deal of psychological and emotional distress that is leaving them feeling frustrated, drained, and disconnected from their work (i.e., burned out).

On days when paramedics experienced more stress and burnout at work, they tended to have a harder time shifting this stress when leaving work, and continued to feel stressed after returning home. In other words, feelings of burnout at work are often being brought home, potentially impacting health and well-being in the home setting. Similar results were observed for stress and negative emotions originating in the work setting, which also led to increased stress at home on a daily basis.

Depressive Symptoms

Depressive symptoms were also measured in the current sample. Self-reported symptoms are indicative of low mood but do not represent a true diagnosis of depression. Nevertheless, such symptom reports give us a rough idea of the emotional well-being of participants.

In the current sample, between one quarter and one third of paramedics reported depressive symptoms in the significant high range.
Bonus Lesson
And of course...

Be organized!
What’s next?

- Currently running a follow-up study on the original 87 dyads.

- Online questionnaire package, cross-sectional – can be completed immediately.

- Change in honorariums – electronic gift certificates instead.
  - Easier for finances – confirmation of participant receipt.
Thank you...

The BC Ambulance Service & its employees

and other participating EMS providers in Canada.

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Our Team of RAs

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