

Building Resilience in an Urban Police Department

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Introduction

The prevalence of public health problems, particularly heart disease and stress, are high among law enforcement officers. Stress is a modifiable risk factor that contributes to chronic disease. Our stress-resilience intervention:

- Educates officers on techniques to manage emotional and physical responses to stress.
- Provides practice sessions that use a hand-held, non-invasive heart-rhythm monitor to help officers develop the skills needed to self-regulate responses to stress.
- Focuses on positive rather than negative emotions so heart rate returns more quickly to baseline after stressful events.

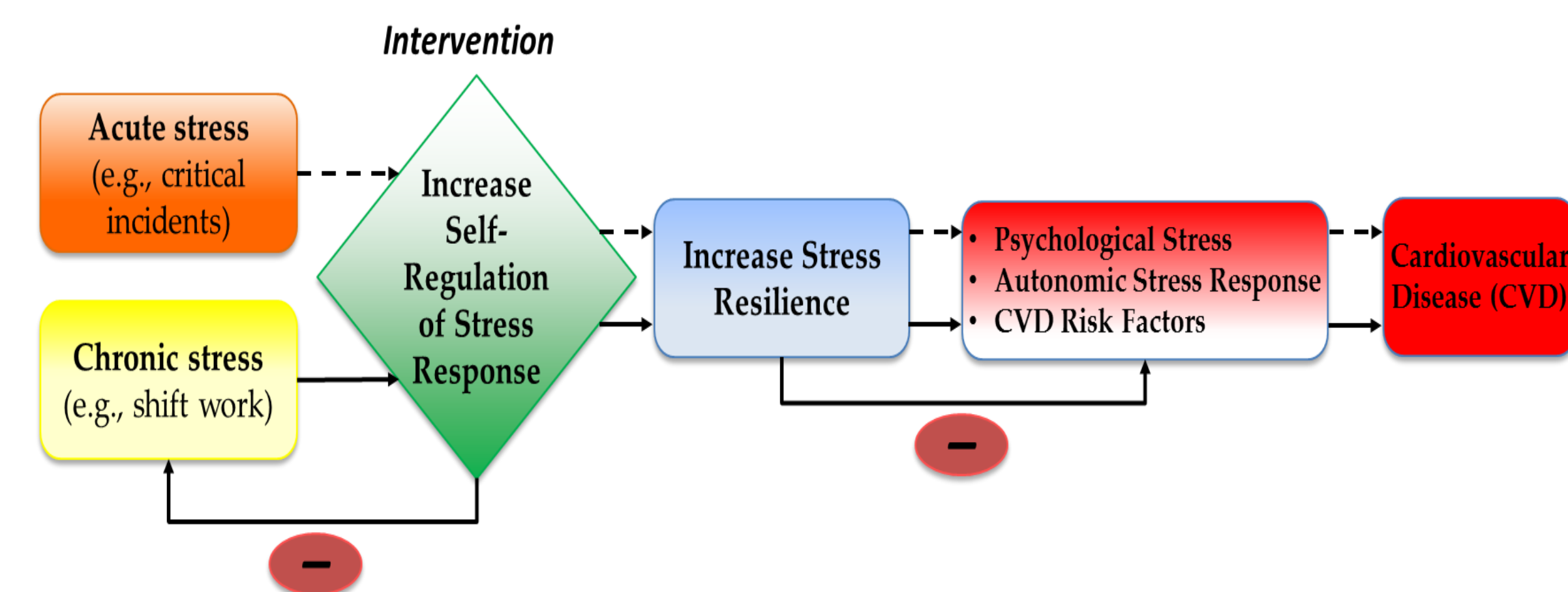
Measurements consist of psychological stress and biological variables taken at baseline, 2 months and 4 months. The proposed work is *innovative* because the focus is not on limiting the officers exposure to stressors but on *modifying how they respond to stressful situations*.

Aims

After completing a stress-resilience intervention, officers will show:

- Lower levels of *psychological stress*
- Improved *autonomic responses* to stress
- Less *CVD risk factors* associated with stress.

Methods



Sample

Phase	N	Males	Females	Age
1	34	28	6	25.7 ± 5.9
2	38	29	9	41 ± 7.6
3	47	37	11	30.6 ± 6.9

Methods (cont' d)

Intervention

- All participants:
 - Attended the 3-hour class on Resilience Training
 - Completed the battery of psychological instruments
 - Participated in 4 tele-mentor sessions conducted by mental health professional by phone
 - Practiced heart-focused breathing for 16 weeks

Phase 1

- Used the Em Wave 2 device for practice
- Wore the First beat heart rate monitor at work and on off days.
- Blood work was collected on all officers



Em Wave 2 Device participants used

Phase 2

- Wait-list control design
- Used iPads for heart-focused breathing practice



Phase 3

- All recruits received the intervention
- Used iPads for heart-focused breathing practice
- Will participate in focus groups at 4 months post intervention, which correlates with two month after graduation from the academy

Results

Physiological and Psychological Measures

Phase 1

- Age was significantly ($p < 0.05$) associated with changes on several measures of psychological stress (e.g., critical incident stress, emotional vitality, and depression)
- Associations were found between coherence and improved HbA1c ($r = -0.66$, $p < 0.001$) and stress due to organizational pressures ($r = -0.44$, $p = 0.03$).
- Improvements in sympathetic and parasympathetic contributors of Heart Rate Variability were significant ($p < 0.03$).

Phase 2

- No statistically significant differences between the groups were found for self-reported measures of stress and resilience.
- For the treatment group ($n = 17$), change in coherence was significant ($p < .001$) and improvement in the Personal Organizational Quality Assessment ($p < .001$) and improvement in the Personal Organizational Quality Assessment
- Emotional Buoyancy sub-scale correlated significantly with the number of practice sessions ($r = .63$, $p = .01$) and marginally with change in coherence ($r = .47$, $p < .07$).

Phase 3 (study in progress January, 2018)

Preliminary Results and Uses identified by recruits:

- T-tests comparing baseline data with time point 2 and 8 weeks showed significant improvement in emotional stress ($p = .05$) and officers reported:
 - Using the breathing techniques before court
 - Practicing before taking an exam
 - Implementing prior to speaking in front of a group
 - Incorporating into family situations
 - Using at bedtime to improve sleep
- Trend improvement in coherence from baseline was found

Conclusions

- Resilience training has several significant effects on both physiological and psychological factors in recruits
- Younger officers appear to change psychologically more readily than older officers
- The Academy is the logical place to teach resilience at the onset of career
- Police agencies need to build community capacity to teach resilience
- The resilience education needs regular reinforcement
- The concept of resilience should be indoctrinated into the culture of the agency
- At the 16 week collection point, the descriptive data for many of the survey variables show change in a positive direction, T-tests will confirm significance
- We conclude these methods help decrease perceived stress and improve coherence.

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