

# Police Officer Stress and Mental Health

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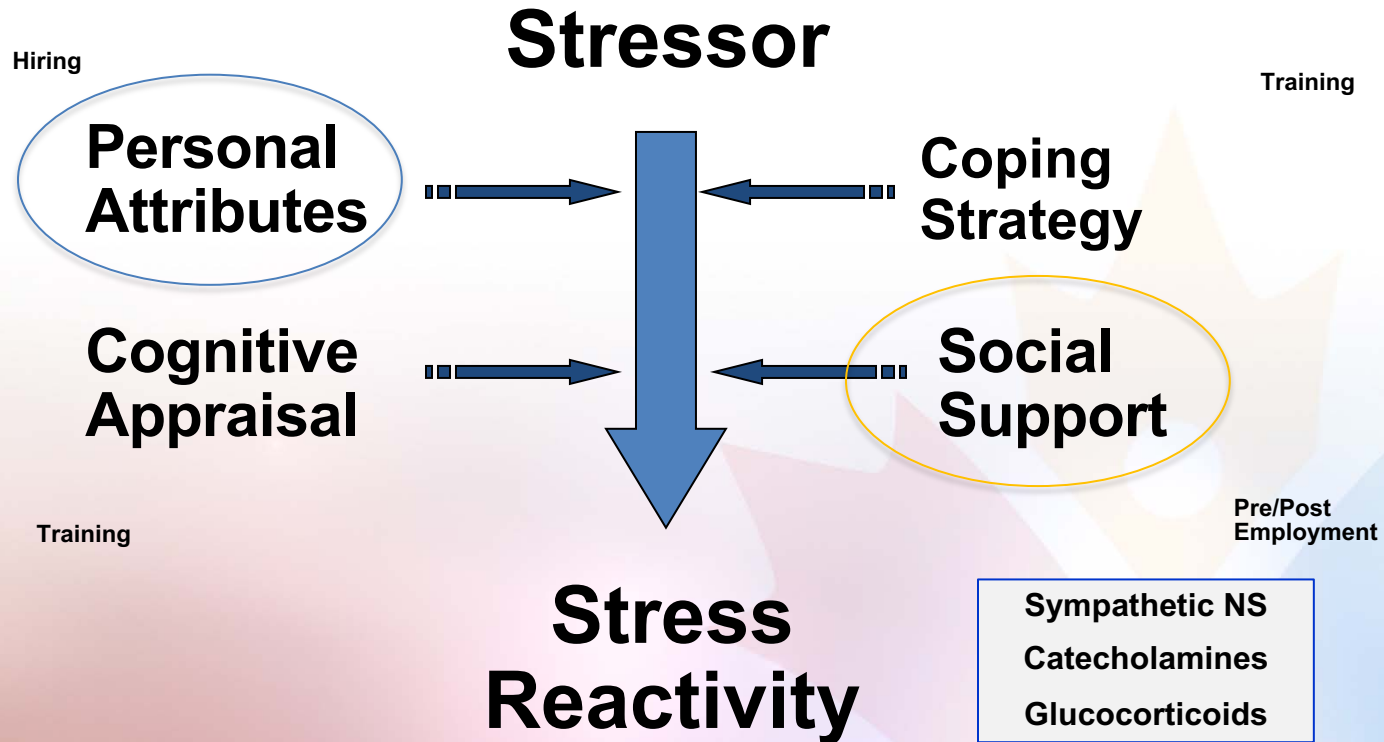
# Disclosures: G.S. Anderson, Ph.D.

- Dean, Office of Applied Research & Graduate Studies
- Director for CIPSRT
- No relationships with commercial interests; no conflicts of interest to declare
- Research support
  - Canadian Institutes of Health Research (CIHR)
  - Canadian Institute for Public Safety Research and Treatment (CIPSRT)
  - Government of Canada, Public Safety Canada (PSC)
  - Solicitor General of British Columbia
  - Justice Institute for British Columbia

# Occupational Stressors = Organizational + Operational

- Organizational stressors are associated with job context or setting.
  - eg. staff shortages, lack of training on new equipment, lack of appropriate resources, inconsistent leadership styles, and a perceived lack of support between co-workers and leaders
- Operational stressors are directly tied to work content or duties.
  - eg. Potentially traumatic events, fatigue from shift work and overtime, job-related risk of injury (e.g., lower back pain), social life limitations, and the inescapability of work

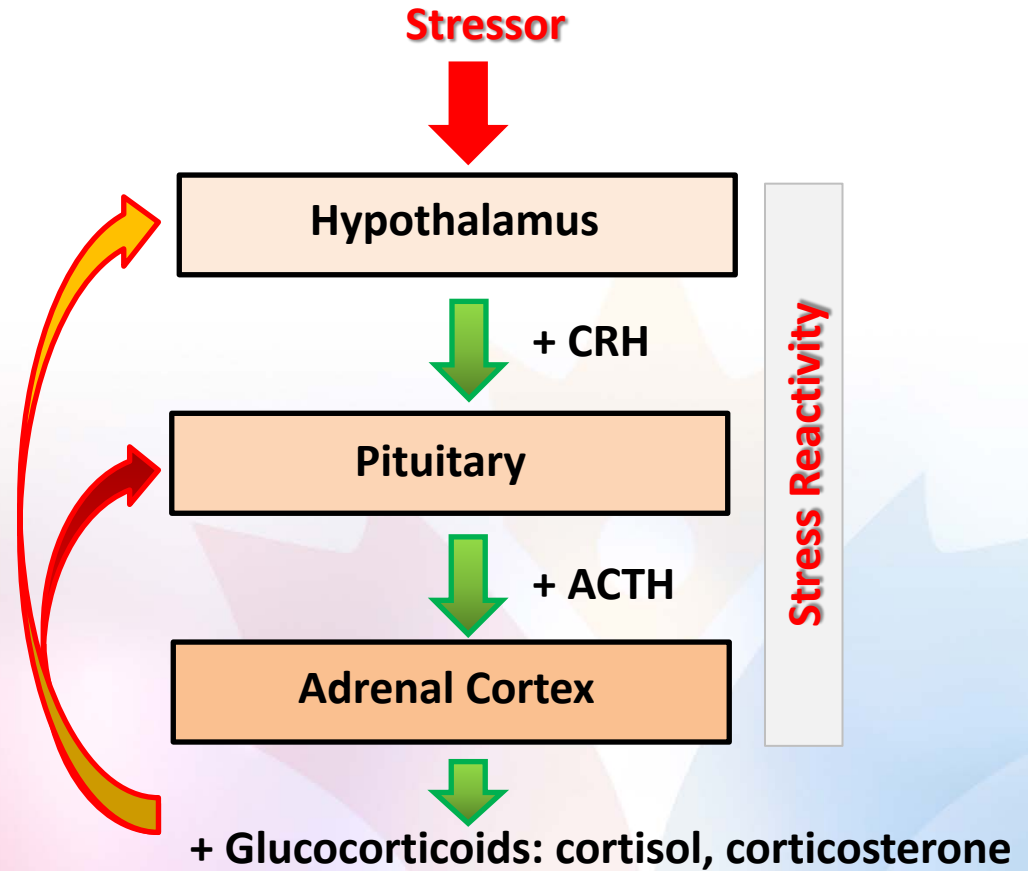




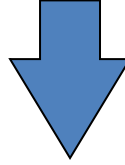
# STRESS REACTIVITY:

Glucocorticoids are the main mediators of the stress response initiated via the HPA Axis

Negative Feedback



# Stressor



# Stress Reactivity



# Evolution / Involution

Repeated exposure with successful resolution may reduce the threat or challenge appraisal and improve performance

Prolonged CORT leads to chronic stress through reduced GR density and resistance reducing negative feedback

**ADAPTATION / HEALTH**

**INJURY / DISEASE**



# Police Stress: Evidence of Stressors and Their Source

# Operational Exposures to Potentially Traumatic Events Among Public Safety Personnel in Canada

(Canadian Journal of Behavioural Science, in press)

Exposure	Total (%)	11+ times	Municipal (%)	RCMP (%)
Life threatening natural disaster	64.4	4.8	61.2	70.2
Fire or explosion	86.0	39.6	85.8	88.4
Serious transportation accident	93.2	71.3	94.7	95.9
Physical assault	90.6	48.7	95.3	95.4
Severe human suffering	79.1	51.9	79.1	79.7
Sudden violent death	93.8	50.5	95.2	95.7



# Evidence of Physical Stress

	Above Resting Heart Rate		%age Heart Rate Reserve	
	Mean	SD	Mean	SD
Standing	27	13	21 %	10 %
Walking	32	15	25 %	10 %
Climbing Stairs	34	15	27 %	13 %
Lifting	35	18	27 %	13 %
Push / Pull	49	25	38 %	19 %
<b>Average Shift</b>	<b>23</b>	<b>13</b>	<b>18 %</b>	<b>10 %</b>

# Evidence of Psycho-social Stress

Anticipation	Above Resting Heart Rate		%age Heart Rate Reserve	
	Mean	SD	Mean	SD
• Code 1, assigned	20	11	15 %	7 %
• Code 1, back-up	21	12	16 %	7 %
• • Code 2, assigned	25	11	18 %	8 %
• • Code 2, back-up	27	12	21 %	9 %
• • • Code 3, assigned	28	17	21 %	13 %
• • • Code 3, back-up	41	10	32 %	7 %

# Evidence of Psycho-social Stress

Threat Appraisal	Above Resting Heart Rate		%age Heart Rate Reserve	
	Mean	Max	Mean	Max
Hand on Gun, No Suspect	29	52	15 %	29 %
Hand on Gun, Suspect	40	52	31 %	43 %
Snap Open, No Suspect	45	49	31 %	31 %
Snap Open, Suspect	49	49	35 %	30 %
Average Standing	27		21 %	

# Occupational Stressors

## = Organizational + Operational

- **Occupational Stressors**
  - Organizational Police Stress Questionnaire (20 items)
  - Operational Police Stress Questionnaire (20 items)
- **7 point scale from “no stress at all” to “a lot of stress”**

## Occupational Stressors = Organizational + Operational

	Total	Municipal/ Provincial Police <sup>a</sup>	RCMP <sup>b</sup>		Total	Municipal/ Provincial Police <sup>a</sup>	RCMP <sup>b</sup>
		Mean (SD)	Mean (SD)			Mean (SD)	Mean (SD)
	<b>Organizational Stressors</b>				<b>Operational Stressors</b>		
The feeling that different rules apply to different people (favouritism)	4.15 (1.95)	4.17 (1.93)	4.22 (1.90)	Negative comments from the public	3.45 (1.97)	3.83 (2.00)	3.80 (1.93)
Lack of resources	4.29 (2.04)	4.05 (2.00)	4.95 (1.91)	Not enough time available to spend with friends and family	3.54 (1.87)	3.44 (1.81)	3.83 (1.96)
Bureaucratic red tape	4.44 (1.98)	4.35 (1.91)	4.83 (1.87)	Occupation-related health issues (e.g., back pain)	3.62 (2.02)	3.55 (2.01)	3.94 (1.96)
Inconsistent leadership style	4.44 (2.10)	4.29 (2.09)	4.56 (2.05)	Finding time to stay in good physical condition	3.96 (1.85)	3.87 (1.85)	4.32 (1.78)
Staff shortages	4.46 (2.08)	4.48 (1.96)	5.19 (1.60)	Fatigue (e.g., shift work, over-time)	4.14 (1.99)	4.07 (1.97)	4.27 (1.99)
<b>Total Mean Score, mean (SD)</b>	<b>3.62 (1.33)</b>	<b>3.58 (1.30)</b>	<b>3.99 (1.31)</b>	<b>Total Mean Score, mean (SD)</b>	<b>3.17 (1.28)</b>	<b>3.15 (1.29)</b>	<b>3.54 (1.36)</b>

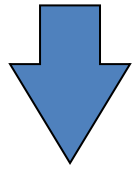
Slightly greater risk from Operational stressors than Organizational stressors

	PTSD	Depression	Generalized Anxiety	Social Anxiety	Panic Disorder	Alcohol Use Disorder	Any Mental Disorder
	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
<b>Model 1</b>							
Total Number of Potentially Traumatic Event Exposure Types	1.13*** (1.09, 1.16)	1.10*** (1.07, 1.13)	1.08*** (1.05, 1.11)	1.04* (1.01, 1.07)	1.16*** (1.10, 1.21)	1.05 (0.996, 1.10)	1.07** (1.05, 1.10)
<b>Model 2</b>							
Mean Organizational Stress Score	2.15*** (2.00, 2.31)	1.90*** (1.78, 2.03)	1.90*** (1.77, 2.05)	1.75*** (1.62, 1.89)	1.96*** (1.77, 2.16)	1.37*** (1.24, 1.53)	1.99*** (1.87, 2.12)
<b>Model 3</b>							
Mean Operational Stress Score	2.28*** (2.12, 2.46)	2.18*** (2.04, 2.34)	2.09*** (1.94, 2.25)	1.98*** (1.80, 2.09)	2.09*** (1.89, 2.31)	1.39*** (1.25, 1.55)	2.29*** (2.14, 2.46)
<b>Model 4</b>							
Total Number of Traumatic Exposures	1.06*** (1.03, 1.10)	1.04* (1.01, 1.07)	1.01 (0.98, 1.04)	0.97 (0.94, 1.00)	1.09*** (1.04, 1.15)	1.01 (0.96, 1.06)	1.01 (0.98, 1.04)
Mean Organizational Stress Score	1.41*** (1.26, 1.58)	1.15** (1.04, 1.28)	1.21*** (1.08, 1.36)	1.14* (1.01, 1.28)	1.24** (1.05, 1.45)	1.07 (0.89, 1.50)	1.24*** (1.12, 1.37)
Mean Operational Stress Score	1.72*** (1.54, 1.92)	1.93*** (1.73, 2.14)	1.80*** (1.61, 2.03)	1.80*** (1.59, 2.03)	1.76*** (1.51, 2.06)	1.33** (1.11, 1.59)	1.96*** (1.76, 2.17)

**Dr. Nick Carleton**

*Mental health among Canadian  
public safety personnel: a brief  
overview of contemporary  
research*

**Stressor**



**Stress  
Reactivity**



**Evolution /  
Involution**

**ADAPTATION / HEALTH**

**INJURY / DISEASE**



# Mental health among Canadian public safety personnel: a brief overview of contemporary research

R. Nicholas Carleton, PhD





# Disclosures

- R. Nicholas Carleton, Ph.D., R.D. Psych.
  - Professor of Psychology
  - Scientific Director for CIPSRT
  - No relationships with commercial interests; no conflicts of interest to declare
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    - Saskatchewan Health Research Foundation (SHRF)
    - University of Regina

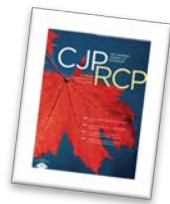


# Prevalence Study

- September, 2016
  - Launch of the *Pan-Canadian Pan-Public Safety Prevalence Survey*
    - Finalized with support from the developing national institute team
    - Partially funded, Ministry of Public Safety and Emergency Preparedness
    - Develop a more robust baseline for Operational Stress Injuries
      - e.g., PTSD, anxiety, depression
    - Data were collected online using a survey available in English and French
    - ~9,000 participants
    - Quantitative and qualitative data
    - Publications and detailed results available on our website [www.cipsrt.ca](http://www.cipsrt.ca)

# Positive Screening Percentages for Recent Mental Disorders Based on Self-Report Measures Mental Disorder Symptoms Among Public Safety Personnel in Canada

*Canadian Journal of Psychiatry*



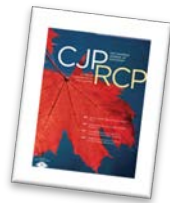
	Gen ~	Total Sample	Police	RCMP
PTSD	~1.1-3.5	<b>23.2</b>	<b>19.5</b>	<b>30.0</b>
Major Depressive Disorder	~7	<b>26.4</b>	<b>19.6</b>	<b>31.7</b>
Gen. Anxiety Disorder	~3	<b>18.6</b>	<b>14.6</b>	<b>23.3</b>
Social Anxiety Disorder	~6.7	<b>15.2</b>	<b>10.0</b>	<b>18.7</b>
Panic Disorder	~1.6	<b>8.9</b>	<b>5.9</b>	<b>12.0</b>
Alcohol Use Disorder	~7-25	<b>5.9</b>	<b>5.8</b>	<b>3.9</b>
Any mood disorder <sup>2</sup>		<b>29.0</b>	<b>21.3</b>	<b>34.7</b>
Any anxiety disorder <sup>3</sup>		<b>30.3</b>	<b>23.7</b>	<b>37.3</b>
Any mental disorder <sup>4</sup>	<b>10.1</b>	<b>44.5</b>	<b>36.7</b>	<b>50.2</b>



# Mental Disorder Count

## Mental Disorder Symptoms Among Public Safety Personnel in Canada

*Canadian Journal of Psychiatry*

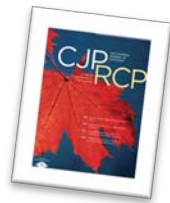


	Total Sample	Police	RCMP
0 mental disorders	<b>58.2</b>	<b>65.9</b>	<b>52.7</b>
1 mental disorders	<b>15.1</b>	<b>13.8</b>	<b>14.8</b>
2 mental disorders	<b>8.7</b>	<b>8.0</b>	<b>8.1</b>
3 or more mental disorders	<b>18.0</b>	<b>12.3</b>	<b>24.4</b>



# Chronic Pain Symptoms Among Public Safety Personnel in Canada

*Canadian Journal of Pain*



- All PSP categories screened positively at substantial rates for several different OSIs
- Demographic Comparisons
  - women screened positively more than men
  - persons with more years of service screened positively more
  - married persons screened positively less than others
  - university educated persons screened positively less than others
  - no differences based on age, ethnicity, or urban/rural location



# Chronic Pain Symptoms Among Public Safety Personnel in Canada

## *Canadian Journal of Pain*



	Gen ~	Total Sample	Police	RCMP
<b>Any Chronic Pain</b>	<b>18.9</b>	<b>40.2</b>	<b>35.9</b>	<b>43.4</b>
Lower back	<b>22.3</b>	<b>24.0</b>	<b>22.1</b>	<b>26.5</b>
Shoulder	<b>6.1</b>	<b>17.6</b>	<b>14.7</b>	<b>19.6</b>
Neck	<b>5.4</b>	<b>16.8</b>	<b>15.4</b>	<b>17.8</b>
Arm	<b>2.2</b>	<b>11.1</b>	<b>10.6</b>	<b>12.5</b>
Leg	<b>7.2</b>	<b>14.3</b>	<b>12.7</b>	<b>15.7</b>
Hand	<b>2.8</b>	<b>10.9</b>	<b>9.8</b>	<b>12.0</b>
Foot	<b>3.4</b>	<b>12.6</b>	<b>11.8</b>	<b>14.9</b>
Headaches	<b>6.2</b>	<b>15.2</b>	<b>14.4</b>	<b>16.0</b>
Other	-	<b>7.1</b>	<b>5.7</b>	<b>8.8</b>



# Chronic Pain Symptoms Among Public Safety Personnel in Canada

## *Canadian Journal of Pain*



	Total Sample	Police	RCMP
Injury related to active duty	<b>40.2</b>	<b>39.6</b>	<b>54.4</b>
Injury related to work other than active duty	<b>9.6</b>	<b>10.2</b>	<b>7.3</b>
Injury not related to work	<b>16.2</b>	<b>18.9</b>	<b>8.5</b>
Non-injury-related disease (e.g., osteoarthritis)	<b>11.2</b>	<b>10.0</b>	<b>7.8</b>



# Prevalence of Past-Year and Lifetime Self-Reported Suicidal Behaviour Suicidal Ideation, Plans, and Attempts Among Public Safety Personnel in Canada

*Canadian Psychology*



	Gen ~	Total Sample	Police	RCMP
<b>Past Year</b>				
Suicidal Ideation	~ 6	10.1	8.3	9.9
Suicidal Planning	~ 2	4.1	3.4	4.1
Suicidal Attempt	~ <1	0.3	0.2	0.2
<b>Lifetime</b>				
Suicidal Ideation	~ 11 – 14	27.8	20.5	25.7
Suicidal Planning	~ 4 – 5	13.3	8.9	11.2
Suicidal Attempt	~ 1 - 4	4.6	2.1	2.4





## Prevalence of exposure to mental health training among PSP categories (n=4,020) (under review)

Training Type	Mun/Prov Police (%)	RCMP (%)
<b>No Training</b>	25.4	42.0
<b>Any Training</b>	74.6	58.0
<b>Critical Incident Stress Management</b>	37.5	31.5
<b>Critical Incident Stress Debrief</b>	34.3	29.7
<b>Mental Health First Aid</b>	18.6	14.2
<b>Peer Support</b>	27.1	18.6
<b>R2MR</b>	51.9	33.8

## Prevalence of exposure to mental health training among PSP categories (n=4,020) (under review)

Type of Training	Mental Health Knowledge Scale, <i>MAKS range (23-75)</i>	Stigma Scale, <i>OMSWA range (11-55)</i>	Mental Health Resilience Scale, <i>BRS range (6-30)</i>
CISM	61.44	20.77	22.31
CISD	61.14	20.79	22.36
MH First Aid	<b>61.87</b>	20.11	22.35
Peer Support	61.54	20.17	<b>22.38</b>
R2MR	61.83	<b>20.02</b>	22.04
<b>Any Training</b>	<b>61.38</b>	<b>20.68</b>	<b>22.02</b>
<b>No Training</b>	<b>60.38</b>	<b>21.39</b>	<b>20.90</b>
	<b>1.3%</b>	<b>1.3%</b>	<b>3.7%</b>

## Prevalence of exposure to mental health training among PSP categories (n=4,020) (under review)

Type of Training	Mental Health Knowledge Scale AOR (95% CI)	Stigma Scale OMSWA AOR (95% CI)	Mental Health Resilience Scale AOR (95% CI)
CISM	<b>0.47 (0.02, 0.91)*</b>	0.25 (-0.36, 0.87)	0.26 (-0.11, 0.63)
CISD	-0.40 (-0.86, 0.06)	0.01 (-0.62, 0.65)	0.35 (-0.03, 0.73)
MH First Aid	<b>0.68 (0.19, 1.16)**</b>	-0.60 (-1.27, 0.07)	<b>0.43 (0.03, 0.83)*</b>
Peer Support	0.41 (-0.05, 0.87)	<b>-0.95 (-1.58, -0.32)**</b>	0.22 (-0.16, 0.60)
R2MR	<b>0.96 (0.55, 1.36)***</b>	<b>-1.31 (-1.87, -0.75)***</b>	0.18 (-0.15, 0.52)

# Limitations and Future Directions

- Similar limitations apply to all results
  - Self-selection
    - Generally demographically representative
    - Over- or under-representation of symptoms
  - Anonymous self-report; screening, not interviews
  - Recent variable timeframe for mental health
  - Broad categories
  - Attrition
  - Complicated direct comparisons with extant population data sets



# Thank you!

## Questions and Discussion



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