Psychological Resilience to Stress in Firefighters: Rank as a risk factor

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Firefighters’ Stress...

- Organisational Stress:
  - Management style (Robens, 1998; Fit for Duty?, 2000)
  - Poor communication (Robens, 1998; Fit for Duty?, 2000)
  - Workload & poor support (Robens, 1998; Fit for Duty?, 2000)
- Incident Stress:
  - Exposure to traumatic events (Brown et al., 2002; Bryant & Harvey, 1995; Regehr, 2009)
  - Burnout (Shalev, 1994)
  - Secondary Traumatic Stress (Cornille et al., 1999; Figley, 1995)
Resilience...

combination of..

• **Robustness**
  – Control of emotions (eg. fear, sadness)
  – Skill acquisition (learning)
  – Creativity (problem-solving)

• **Support**
  – Confidential and sensitive (Cohen, 1976; Cohen & Wills, 1985; Equality & Fairness, 1999; Mitchell, 1983)

Measures

• **State-Trait Anxiety Inventory** (Spielberger, Gorsuch & Lushene, 1979)

• **Beck Depression Inventory** (Beck, Rush, Shaw & Emery, 1979)

• **Dissociative Experiences Scale** (Bernstein & Putnam, 1986)

• **PTSD Symptom Scale - Interview** (Foa, Riggs, Dancu & Rothbaum, 1993)
Anxiety & Depression

<table>
<thead>
<tr>
<th></th>
<th>Anxiety - State</th>
<th>Trait</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefighter (21)</td>
<td>30</td>
<td>34</td>
<td>5</td>
</tr>
<tr>
<td>Junior Officer (30)</td>
<td>33</td>
<td>35</td>
<td>6</td>
</tr>
<tr>
<td>Watch Commander (13)</td>
<td>31</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>Station Officer (18)</td>
<td>34</td>
<td>33</td>
<td>6</td>
</tr>
<tr>
<td>Fire College Staff (11)</td>
<td>28</td>
<td>33</td>
<td>4</td>
</tr>
</tbody>
</table>

Clinical levels

- Anxiety State: >45
- Trait: >45
- Depression: >14

Dissociation

Derealization

“I can’t believe what’s happening”

Depersonalization

“This isn’t happening to me”
### Dissociative Experiences Scale

(Bernstein & Putnam, 1986)

<table>
<thead>
<tr>
<th>Psychiatric Group</th>
<th>DES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>4.3</td>
</tr>
<tr>
<td>Alcoholism</td>
<td>4.7</td>
</tr>
<tr>
<td>Phobias</td>
<td>6.0</td>
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<tr>
<td>Agoraphobia</td>
<td>7.4</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>21.1</td>
</tr>
<tr>
<td>PTSD</td>
<td>31.3</td>
</tr>
<tr>
<td>Multiple Personality Disorder</td>
<td>57.0</td>
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</tbody>
</table>

### Dissociative Experiences Scores

<table>
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<th>Group</th>
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<th>Range</th>
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<tr>
<td>Firefighter (21)</td>
<td>4.3</td>
<td>0.2 - 27.0</td>
</tr>
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<td>Junior Officer (30)</td>
<td>4.7</td>
<td>0.7 - 47.9</td>
</tr>
<tr>
<td>Watch Commander (13)</td>
<td>10.4</td>
<td>1.3 - 20.4</td>
</tr>
<tr>
<td>Senior Officer (18)</td>
<td>7.9</td>
<td>3.9 - 23.2</td>
</tr>
<tr>
<td>Fire College Staff (11)</td>
<td>4.6</td>
<td>0.7 - 31.6</td>
</tr>
</tbody>
</table>
Incident vs. Organisational Stress

Operational Firefighters 4.3

Junior Officers 4.7

Watch Commanders 10.4

Senior Officers 7.9

Fire College Staff 4.6

Organisational Exposure

Incident Exposure

Autobiographical Memory: Control Group

<table>
<thead>
<tr>
<th>% RECALL</th>
<th>early child</th>
<th>early adult</th>
<th>recent life</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>79</td>
<td>81</td>
<td>86</td>
</tr>
</tbody>
</table>

LIFE PERIOD
Autobiographical Memory: Operational Firefighters (21)

Autobiographical Memory: Senior Officers (10)
AMI: Semantic Memory

AMI: Episodic Memory
Dissociative Experiences Scores

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<td>1</td>
</tr>
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<td>3.9 - 23.2</td>
<td>2</td>
</tr>
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At the end of a bad shift I would seek out…

- Work colleague
- Friend
- Spouse
- Relative
- Alcohol or other soft drugs
- Exercise or physical activity
- Isolation
- Professional support (e.g. counselling, helpline)
Support Preferences

1. Work colleague
2. Spouse
3. Friend
4. Relative
5. Exercise
6. Isolation
7. Alcohol
8. Professional Support

Formalised Support - Comments

“...culture of indiscretion within Service.”
“no-one has confidence of confidentiality within the brigade.”
“senior officers are used as counsellors...”
“...should be better than they actually are.”

“helpline and debriefing are the wrong people with no training...”
“brigade debrief team seemed to create a false caring atmosphere...”
“members of watch did not want debriefing...”
“paid lip service to debriefing procedures.”
Findings

• Dissociation appeared to discriminate the groups best.
• Autobiographical memory deficits consistent with traumatic experience.
• Organisational stress may be more significant than incident stress;
• Formal support appears unpopular and inadequate; reliance placed on untrained but familiar others.

Implications

• Decision-making and problem-solving deficits likely in particular ranks...
• Recruitment/promotion candidacy demands research...
• Sub-cultures may explain differences...
• Social/family well-being threatened by firefighters’ stress...
**Qualitative or Quantitative?**

- Themes, issues, lives…
  - *Fit for Duty?* Report
  - Derive themes…
  - organisational vs incident- stress?
  - Derive themes…
  - confidentiality and trust

- Scores, statistics, scales…
  - Anxiety
  - Depression
  - Dissociation
  - Autobiographical Memory
  - Survey data - rank order

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