**Incivility among Nationally Certified EMS Professionals is Linked to Workforce-Reducing Factors**

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**BACKGROUND**

Disclosures

- No conflicts of interest.

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**Incivility**

- Incivility: negative interpersonal acts that violate norms for social interaction
Incivility in Healthcare

- Linked to negative individual and organizational effects in other healthcare settings
  - Loss of productivity
  - Absenteeism
  - Burnout
  - Turnover intentions
  - Patient safety lapses
  - Poor quality of care
- Little is known about effects in the EMS workforce

Objective

- Describe the association between incivility and the following workforce reducing factors among EMS professionals
  - Stress
  - Career satisfaction
  - Turnover intentions
  - Workplace absence

Design & Study Population

- Design
  - Cross-sectional survey administered in September 2016
- Target population
  - Nationally-certified EMS professionals (EMT, AEMT, paramedic)
- Sample size
  - Random sample of 38,000 EMS professionals from National EMS Certification database
### Independent Variable: Incivility Exposure

- Measured using EMS-adapted **Workplace Incivility Scale** (Cortina et al. 2001)

  - Example:
    - During the past 12 months while employed at your main EMS job, how often have any of your immediate supervisors:
      - Put you down or been condescending to you?
      - Started rumors or gossip about you?
    - 4 point behavioral frequency scale (once every few months or less - at least once a day)

### Outcomes: Workforce-Reducing Factors

- **Stress**
  - Stress component of the Depression Anxiety Stress Scale (DASS)

- **Career satisfaction**

- **Turnover intentions**

- **Workplace absence**
  - High workplace absence: ≥ 10 days in previous 12 months

### Covariates

- Selected a priori based on directed acyclic graph to understand effect of incivility on each outcome

  - Minimally sufficient adjustment set included:
    - Certification level (BLS [EMT], ALS [AEMT, paramedic])
    - Employment status (full-time, part-time/per diem)
    - Sex (male, female)
    - Years at current job (<3, 3-7, 8-15, 16+ years)

*Significant interaction found and included between certification level and employment status for model of intent to leave EMS*
Data Analysis
• Inclusion criteria: currently practicing providers (EMT or higher) in non-military settings
• Multivariable logistic regression models constructed for each outcome adjusting for a priori covariates

Response and Respondents
• 3,741 responses (response rate=10.3%)
• 2,815 (75%) included in analyses

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Respondents</th>
<th>Nationally-Certified EMS Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>70%</td>
<td>72%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>87%</td>
<td>74%</td>
</tr>
<tr>
<td>BLS (EMT)</td>
<td>54%</td>
<td>67%</td>
</tr>
</tbody>
</table>

Geographic Distribution
Respondents
N = 3,741
Nationally-Certified EMS Population
N = 378,850
Incivility Experiences

At least weekly incivility from supervisors or coworkers

- At least once a week: 47% (n = 1,232)
- Less than once a week: 53% (n = 1,252)

Daily incivility

- Once a week: 50% (n = 625)
- Once a day: 22% (n = 625)

Effects of Weekly Incivility

* Adjusted for certification level, employment status, sex, and years at current job
† Adjusted for certification level, employment status, sex, years at current job, and the interaction between certification level and employment status

Outcome

<table>
<thead>
<tr>
<th>Incivility Level</th>
<th>Disatisfaction with EMS</th>
<th>Disatisfaction with Job</th>
<th>Disatisfaction with Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.79 (3.49-6.36)</td>
<td>6.03 (4.99-7.93)</td>
<td>13.24 (9.27-19.05)</td>
</tr>
<tr>
<td>Moderate or Higher Stress</td>
<td>6.21 (4.54-8.49)</td>
<td>5.34 (3.71-7.50)</td>
<td>11.25 (6.90-18.69)</td>
</tr>
<tr>
<td>Intent to Leave Job</td>
<td>3.29 (2.17-5.02)</td>
<td>2.35 (1.40-4.08)</td>
<td>5.18 (2.96-9.10)</td>
</tr>
<tr>
<td>Absent 10+ days</td>
<td>1.38 (1.08-1.81)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adjusted Odds Ratio
Effects of Weekly Incivility

**BACKGROUND**

- Dissatisfaction with EMS
- Dissatisfaction with Job
- Dissatisfaction with Supervisor
- Moderate or Higher Stress
- Intent to Leave Job
- Intent to Leave EMS
- Absent 10+ days

**RESULTS**

<table>
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<tr>
<th>Outcome</th>
<th>Adjusted Odds Ratio</th>
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</thead>
<tbody>
<tr>
<td>Dissatisfaction with EMS</td>
<td>4.73 (3.48-6.36)</td>
</tr>
<tr>
<td>Dissatisfaction with Job</td>
<td>6.05 (4.99-8.97)</td>
</tr>
<tr>
<td>Dissatisfaction with Supervisor</td>
<td>6.31 (4.04-6.99)</td>
</tr>
<tr>
<td>Moderate or Higher Stress</td>
<td>5.54 (6.21-14.88)</td>
</tr>
<tr>
<td>Intent to Leave Job</td>
<td>3.13 (2.47-6.02)</td>
</tr>
<tr>
<td>Intent to Leave EMS</td>
<td>1.88 (1.06-3.41)</td>
</tr>
<tr>
<td>Absent 10+ days</td>
<td>2.89 (2.03-4.16)</td>
</tr>
</tbody>
</table>

* Adjusted for certification level, employment status, sex, and years at current job.
*† Adjusted for certification level, employment status, sex, years at current job, and the interaction between certification level and employment status.
Strengths and Limitations

- Strengths
  - Large sample size with national representation

- Limitations
  - Self-reported perceptions of incivility and outcomes
  - Response bias due to low response rate
  - Cross-sectional

Conclusions

- Nearly half the sample exposed to regular incivility
- Exposure linked to increased odds of workforce-reducing factors
- Future research should focus on effect of organizational climate and other interpersonal behaviors on individuals and workforce stability

QUESTIONS?
### Effects of Incivility

#### At least weekly exposure

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Exposed, n (%)</th>
<th>Unexposed, n (%)</th>
<th>Crude OR (95% CI)</th>
<th>Adjusted OR † (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissatisfied with EMS</td>
<td>240 (19.2)</td>
<td>70 (5.0)</td>
<td>4.34 (3.30, 5.71)*</td>
<td>4.70 (3.48, 6.35)*</td>
</tr>
<tr>
<td>Dissatisfied with main EMS job</td>
<td>306 (24.5)</td>
<td>71 (5.1)</td>
<td>5.89 (4.51, 7.69)*</td>
<td>6.68 (4.99, 8.93)*</td>
</tr>
<tr>
<td>Dissatisfied with main supervisor</td>
<td>420 (33.6)</td>
<td>61 (4.4)</td>
<td>11.27 (8.50, 14.93)*</td>
<td>11.04 (8.21, 14.85)*</td>
</tr>
<tr>
<td>Moderate or higher stress</td>
<td>287 (25.6)</td>
<td>78 (6.0)</td>
<td>5.32 (4.10, 7.00)*</td>
<td>5.31 (4.04, 6.96)*</td>
</tr>
<tr>
<td>Intent to leave job in next 12 months</td>
<td>373 (29.8)</td>
<td>134 (9.6)</td>
<td>3.80 (3.08, 4.68)*</td>
<td>3.99 (3.17, 5.02)*</td>
</tr>
<tr>
<td>Intent to leave EMS in next 12 months ‡</td>
<td>139 (11.2)</td>
<td>47 (3.4)</td>
<td>3.37 (2.43, 4.67)*</td>
<td>3.55 (2.46, 5.05)*</td>
</tr>
<tr>
<td>Absent 10 or more days in past 12 months</td>
<td>138 (11.2)</td>
<td>131 (9.5)</td>
<td>1.21 (0.94, 1.55)</td>
<td>1.38 (1.06, 1.81)*</td>
</tr>
</tbody>
</table>

* p<0.05
† Adjusted for certification level, employment status, sex, and years at current job
‡ Adjusted for certification level, employment status, sex, years at current job, and the interaction between certification level and employment status

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### Effects of Incivility

#### Daily exposure

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<thead>
<tr>
<th>Outcome</th>
<th>Exposed, n (%)</th>
<th>Unexposed, n (%)</th>
<th>Crude OR (95% CI)</th>
<th>Adjusted OR † (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissatisfied with EMS</td>
<td>160 (25.6)</td>
<td>149 (7.42)</td>
<td>4.24 (3.33, 5.40)*</td>
<td>4.48 (3.44, 5.83)*</td>
</tr>
<tr>
<td>Dissatisfied with main EMS job</td>
<td>207 (33.2)</td>
<td>169 (8.4)</td>
<td>5.24 (4.18, 6.77)*</td>
<td>5.77 (4.53, 7.37)*</td>
</tr>
<tr>
<td>Dissatisfied with main supervisor</td>
<td>261 (41.9)</td>
<td>217 (10.8)</td>
<td>5.91 (4.79, 7.29)*</td>
<td>6.17 (4.92, 7.74)*</td>
</tr>
<tr>
<td>Moderate or higher stress</td>
<td>174 (31.5)</td>
<td>191 (10.2)</td>
<td>4.08 (3.25, 5.14)*</td>
<td>3.98 (3.13, 5.06)*</td>
</tr>
<tr>
<td>Intent to leave job in next 12 months</td>
<td>211 (33.8)</td>
<td>294 (14.6)</td>
<td>2.88 (2.35, 3.53)*</td>
<td>3.24 (2.59, 4.06)*</td>
</tr>
<tr>
<td>Intent to leave EMS in next 12 months ‡</td>
<td>87 (14.1)</td>
<td>98 (4.9)</td>
<td>3.04 (2.26, 4.09)*</td>
<td>3.42 (2.47, 5.09)*</td>
</tr>
<tr>
<td>Absent 10 or more days in past 12 months</td>
<td>80 (12.9)</td>
<td>189 (9.5)</td>
<td>1.41 (1.07, 1.85)*</td>
<td>1.59 (1.19, 2.12)*</td>
</tr>
</tbody>
</table>

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† Adjusted for certification level, employment status, sex, and years at current job
‡ Adjusted for certification level, employment status, sex, years at current job, and the interaction between certification level and employment status

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### Notes

- At least weekly exposure
- Daily exposure
- Mostly stable effect with no dose-response relationship seen
- Effects in EMS