Psychosocial Predictors of Occupational Injury, Illness and Assault in a National Random-Digit Dial Survey

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Sparking Tradition With Invention
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Objectives

• Describe why psychosocial stressors are important to occupational health and safety professionals.
• Examine the association between 3 psychosocial stressors and Occupational Injury, Illness and Assault (OIIA).
• Explore the implications of psychosocial stressors.
Occupational Injury, Illness and Assault?

• BLS – Non-fatal injuries and illnesses
  2004 – 4.3 million
  2003 – 4.4 million
• Incidence rate per 100 equivalent fulltime workers
  2004 - 4.8
  2003 - 5.0

Psychosocial stressors measured

• Generalized Workplace Harassment (GWH)
  – Richman & Rospenda et al. 1999

• Sexual Harassment (SH)
  – Gelfand, 1995; Fitzgerald, 1988; Fitzgerald, 1988; Fitzgerald, 1997

• Job Pressure and Job Stress (JPT)
  – Stanton et al., 2001
Occupational Injury, Illness, and Assault (OIIA)

“In the past 12 months, did you suffer a work-related illness, injury, or assault…?”
GWH (10 questions)

During the past 12 months at your job (or jobs) how often have you been in a situation where someone...

a) made hostile or offensive gestures at you?
b) labeled you a troublemaker if you expressed your own opinion?
c) humiliated or embarrassed you in front of others?
d) ignored you or your work contributions?
e) turned others in your workplace against you?

(J. A. Richman, K. M. Rospenda et al., 1999)
SH (9 questions)

During the past 12 months at your job (or jobs) how often have you been in a situation where someone...

a) treated you differently because you are a woman or man?

b) made unwanted attempts to draw you into a discussion about personal or sexual matters?

c) gave you unwanted sexual attention?

d) stared at, leered at, or ogled at you in a way that made you feel uncomfortable?

e) put you down, or was condescending to you because of your gender?

(Fitzgerald, Shullman et al., 1988)
JPT (7 questions)

Pressure - Would you say your job is...
- a) pressured?
- b) hectic?
- c) relaxed?

Threat - Would you say your job is...
- a) under-control?
- b) nerve-wracking?
- c) hassled?
- d) smooth-running?

(Stanton, Balzer et. Al, 2001)
Data Collection

Study Participants (19-88 years old)

– adult age (18+ years),
– living in the residence of the telephone numbers,
– having worked at least 20 hours per week at any point in the last twelve months,
– fluent in English or Spanish
2-Wave Nation-Wide Random-Digit Dial Telephone Survey

Wave–1
August 14, 2003 – February 2, 2004

Wave–2
August 21, 2004 – December 12, 2004
2-Wave Nation-Wide Random-Digit Dial Telephone Survey

N=2,151 (Wave-1)  N=1,377 (Wave-2)

• Age (19 – 88 years old)
  – Wave 1 (mean: 40.3, s.d. 12.0)
  – Wave 2 (mean: 42.0, s.d. 11.6)

• Sex
  – Wave 1 (Male – 56%)
  – Wave 2 (Male – 53%)

• Race
  – Wave 1 (White – 78%, Non-White - 22%)
  – Wave 2 (White – 83%, Non-White – 17%)
Data Analysis

• SPSS version 15.0
  – Cross Tabulation
  – Binomial Logistic Regression
• Data Weighting
• Back Coding
  – Occupational groups
  – OIIA “other” illness responses
Data Analysis

• GWH and SH were dichotomized
  – Experienced 0 times versus 1 time or more
  – Experienced 0-1 times versus more than once
• JPT remained continuous
• OIIA (dichotomous)
• Control variables
  – Age (continuous)
  – Race (White vs. Non-White)
  – Sex (dichotomous)
  – Occupational Groups (5 categories)
Occupational Groups

North American Industry Classification System

- Management
- Professional
- Service
- Sales/Office
- Construction/Extraction
- Production/Transportation
Odds Ratios for Psychosocial Variables and OIIA in Cross-sectional and Longitudinal Results

<table>
<thead>
<tr>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 1 pred. Wave 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GWH</td>
<td>1.03</td>
<td>1.06</td>
</tr>
<tr>
<td>SH</td>
<td>3.07</td>
<td>1.02</td>
</tr>
<tr>
<td>JPT</td>
<td>2.05</td>
<td>2.64</td>
</tr>
<tr>
<td></td>
<td>3.62</td>
<td>1.06</td>
</tr>
</tbody>
</table>

Legend:
- **GWH**
- **SH**
- **JPT**
Wave 1 results showing the associations between GWH, SH, JPT, and OIIA

<table>
<thead>
<tr>
<th></th>
<th>GWH (0 vs. 1 or more)</th>
<th>SH (0 vs. 1 or more)</th>
<th>JPT (continuous)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adjusted for occ. groups</strong></td>
<td><strong>3.70</strong>*</td>
<td><strong>1.53</strong>*</td>
<td>(1.02)</td>
</tr>
<tr>
<td>Professional</td>
<td>(2.02)</td>
<td>2.07</td>
<td>2.21*</td>
</tr>
<tr>
<td>Service</td>
<td><strong>4.15</strong> **          **</td>
<td><strong>4.16</strong> **        **</td>
<td>4.27** **      **</td>
</tr>
<tr>
<td>Construction/Extraction</td>
<td>(2.15)</td>
<td>(2.20)</td>
<td>(2.23)</td>
</tr>
<tr>
<td>Production/Transportation</td>
<td>3.07*</td>
<td>2.98*</td>
<td>3.05*</td>
</tr>
</tbody>
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Odds Ratios shown above *p<0.05, **p<0.005, ()- not statistically sig.
Wave 2 results showing the associations between GWH, SH, JPT, and OIIA

<table>
<thead>
<tr>
<th>n=917</th>
<th>GWH  (0 vs. 1 or more)</th>
<th>SH  (0 vs. 1 or more)</th>
<th>JPT (continuous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted for occ. groups</td>
<td>2.64**</td>
<td>3.05**</td>
<td>1.06**</td>
</tr>
<tr>
<td>Professional</td>
<td>2.57*</td>
<td>2.29*</td>
<td>2.65*</td>
</tr>
<tr>
<td>Service</td>
<td>4.37**</td>
<td>3.72**</td>
<td>4.52**</td>
</tr>
<tr>
<td>Construction/Extraction</td>
<td>2.87*</td>
<td>2.81*</td>
<td>2.88**</td>
</tr>
<tr>
<td>Production/Transportation</td>
<td>5.00**</td>
<td>4.68**</td>
<td>5.22**</td>
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Odds Ratios shown above *p<0.05, **p<0.005
Wave 1 psychosocial stressors used to predict OIIA’s in Wave 2

<table>
<thead>
<tr>
<th></th>
<th>GWH (W-1) (0 vs. 1 or more)</th>
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<th>JPT (W-1) (continuous)</th>
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<td>2.05*</td>
<td>3.62**</td>
<td>1.03</td>
</tr>
<tr>
<td>Professional</td>
<td>(2.01)</td>
<td>(1.84)</td>
<td>(2.23)</td>
</tr>
<tr>
<td>Service</td>
<td>2.68*</td>
<td>2.87*</td>
<td>2.86*</td>
</tr>
<tr>
<td>Construction/Extraction</td>
<td>(2.48)</td>
<td>2.67*</td>
<td>2.70*</td>
</tr>
<tr>
<td>Production/Transportation</td>
<td>4.02*</td>
<td>3.98**</td>
<td>4.13*</td>
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Odds Ratios shown above *p<0.05, **p<0.005, ()- not statistically sig.
Odds ratios for psychosocial variables and OIIA in cross-sectional and longitudinal results

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<td>1.03</td>
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Odds Ratios

GWH: 3.07, 1.53, 1.02, 3.62
SH: 2.64, 1.06, 1.06, 2.05
JPT: 1.02, 1.06, 1.06, 1.03
Discussion

• All three psychosocial stressors appear to be important
• Occupational Groups experience/report psychosocial stressors differently as well as OIIA
• What are the factors which influence the change in levels of association between stress and OIIA?
Implications

• Mental Health Support and Programs
• Employee Assistance Programs
• Conflict Resolution
• Occupational Health
• Overall Employee Health
• Supporting the Complete Occupational Environment
Future Research

- Examine coping mechanisms utilized by the two populations (Wave 1 and 2).
- Compare data to other nationally representative databases.
- Examine the occupational groups by gender and income gradients.
Acknowledgements

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QUESTIONS ????

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