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ACHIEVING GREATNESS
Effects of academic stress on illness and injury in Division 1 Football

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What was the study?

• Retrospective-
  – We didn’t start out with anything in mind.
  – Saw a rash of injuries and wanted to see if we could figure out why.
• Followed the team throughout the course of the entire season.
What are the peaks?

• Enlisted outside help
• Academic coordinator confirmed peaks were during test weeks
Frequency of injuries by type of week

<table>
<thead>
<tr>
<th>Total Number of Injuries Per Week</th>
<th>High Physical Stress (Training Camp)</th>
<th>High Academic Stress (Examination Periods)</th>
<th>Low Academic Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>
What about additional stressors?

• What about position?
  – Thoughts of high vs low velocity impacts
    • Examined by individual positions and positoin groups
      – No effect in our data
  – Thoughts of playing time
### Odds ratios for different breakout groups

Table 3. Results from hierarchical logistic regression using A. all subjects (n=101), B. only subjects that played (n=46) and C. subjects that did not play (n=51)

<table>
<thead>
<tr>
<th></th>
<th>Odds Ratio (OR)</th>
<th>95% Confidence Interval</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>HPS/HAS</td>
<td>2.05</td>
<td>(1.39, 3.03)</td>
<td>0.0003</td>
</tr>
<tr>
<td>HPS/LAS</td>
<td>3.65</td>
<td>(2.50, 5.32)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>HAS/LAS</td>
<td>1.78</td>
<td>(1.16, 2.74)</td>
<td>0.0088</td>
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<td><strong>B.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPS/HAS</td>
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<td>(0.55, 2.32)</td>
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<tr>
<td>HPS/LAS</td>
<td>2.84</td>
<td>(1.49, 5.42)</td>
<td>0.0016</td>
</tr>
<tr>
<td>HAS/LAS</td>
<td>3.19</td>
<td>(1.61, 6.34)</td>
<td>0.0009</td>
</tr>
<tr>
<td><strong>C.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPS/HAS</td>
<td>2.315</td>
<td>(1.340, 3.996)</td>
<td>.0026</td>
</tr>
<tr>
<td>HPS/LAS</td>
<td>1.710</td>
<td>(1.039 , 2.815)</td>
<td>.0348</td>
</tr>
<tr>
<td>HAS/LAS</td>
<td>1.376</td>
<td>(2.504, 6.258)</td>
<td>&lt;.0001</td>
</tr>
</tbody>
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HPS = High Physical Stress; LAS = Low Academic Stress; HAS = High Academic Stress
Did you notice B?

<p>| | | | |</p>
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• Those who played were more likely to be injured during a test week than during camp.
• Test week odds: 3.19
• Camp week odds: 2.84
WHY?!?!?!?!

- Being a starter is a stressor in and of itself (Petrie 1993)
  - Stress to perform
    - Internal
    - External
      - Coach
      - Team
      - Media
      - Friends
      - Social Media
Interesting Side Notes

• Petrie 1993
  – A newly inserted starter is 3-5x’s as likely to get injured as an established starter on any given week
  – Test week: established starter is 3.19x’s as likely to get hurt as non-text week
    • New starters may be 9.57-15.95x’s as likely to get injured.
Moderating effects of social support

• Social support
  – Often family, close friends.
  – Work to process problems
  – Act as a safety net
Effects of Social Support

• Those who had good social support structure were less likely to get injured.
  – They were able to work through problems
  – They knew they had a safety net
  – The resolution of this possibly allowed for the stressor to go away-
    • Lack of continued rumination by athlete
What can the S&C Coach do?

• Realize what the weeks are
  – Handle loads appropriately
    • Either decrease intensity or decrease volume
  – Get to know your athletes
    • Know them, know their changes in mood.
    • “When they deserve love the least is when they need love the most” - Andrea Hudy from Rob Taylor’s podcast.
    • Athletes don’t care how much you know until they know how much you care.
Maslow’s Hierarchy of Needs

- **Physiological needs**: breathing, food, water, shelter, clothing, sleep
- **Safety and security**: health, employment, property, family, and social stability
- **Love and belonging**: friendship, family, intimacy, sense of connection
- **Self-esteem**: confidence, achievement, respect of others, the need to be a unique individual
- **Self-actualization**: morality, creativity, spontaneity, acceptance, experience purpose, meaning and inner potential

Maybe social support is important
• Sometimes the S&C coach may become a part of the athletes social support system
  – Not in social settings
    • A ear to listen
    • A sounding board for ideas
  – “In my career as a track coach, I did way more coaching over playing cards than I ever did on the track”- Dr. Rick McGuire
    • Started Sports Psychology for USATF
For those who are in charge of it all (Sport and S&C)

- During test weeks, reduce either time or intensity of practice.
  - Decrease time, maintain intensity
  - Maintain time, decrease intensity of drills but increase tactical side.
In Conclusion

• Academic stress does effect the body
• You can predict academic stress
  – Traditional schedules
  – Syllabus dates/deadlines
• If you can predict for it, you can account for it, and possibly reduce injury risk.
References

