MINDFULNESS, RESILIENCY AND MEDICINE

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The Workplace Problem: Burnout and Compassion Fatigue
### Burnout

- Cumulative stress from the demands of daily life, a state of physical, emotional, and mental exhaustion caused by a depletion of the ability to cope with one’s environment, particularly the work environment (Maslach, 1982)

### Compassion Fatigue

- Results from giving high levels of energy and compassion over a prolonged period to those who are suffering, often without experiencing the positive outcomes of seeing patients improve. (McHolm, 2006)
- Similar to PTSD
- Preoccupation with the individual or cumulative traumas of clients.
Studies have shown that stress, burnout and compassion fatigue are costly problems that impact:

- Provider turnover, absenteeism and work performance (Bartoli, 2002; Maslach & Leiter, 2008; Maslach, 2001)
- Patient satisfaction (West 2006)
- Safety/Errors - workers with moderate to high levels of psychological distress have increased odds ratio of 1.4 for workplace accident (Hilton 2010; West 2006; Shanafelt TD 2010; Halbesleben, 2008)
- Mental and physical health (Abendroth, 2011; Ahola, 2010; Taris, 2008)
Mindfulness

The learned ability to:

Pay attention
• on purpose
• in the present moment
• non-judgmentally

Identify objectively and systematically
• thought patterns
• emotional states
• physical reactions
Mindfulness Program Core Objectives:

Nature of Thought

- We tend to run on autopilot, being wrapped up in what we are thinking rather than aware of what is occurring in the present moment. We are typically unaware of the wandering mind or the nature of thought.

Nature of the Stress Response

- Stress is more often related to what we tell ourselves about an event and whether or not we can meet the demand, rather than about the event itself.

Objectivity in Times of Stress

- We work on learning to respond to difficult events by taking a step back and becoming objective observers, rather than automatically reacting.
- This improves relationships, communication, problem solving, and can dramatically decrease occupational stress.

Power of Being Present

- By learning to be fully present to all experience, we can improve focus as well as quality of life. This helps us become more engaged both at work and home, improving health and performance.
Mindfulness in Medicine

Studies have shown that mindfulness can positively impact:

- Burnout (Shapiro et al 2005)
- Mental well-being (Goodman et al 2014)
- Depersonalization (West et al 2014)
- Emotional Exhaustion (West et al 2014)
- Empathy (Beckman et al 2012)
- Mood disturbance (Krasner 2009)
Mindfulness in Business

Studies have shown that mindfulness can positively impact:

- Reliability and safety
- Decision making capacity
- Productivity
- Resilience and employee well-being
- Work engagement and employee turnover

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Dow Chemical Mindfulness Study

April-November 2012
<table>
<thead>
<tr>
<th>Class</th>
<th>MBSR</th>
<th>Dow Mindful Resilience Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>3 hours</td>
<td>1 hour (Theme: Overriding Autopilot)</td>
</tr>
<tr>
<td></td>
<td>Body Scan (45 minutes) x 6</td>
<td>The Raisin (12 minutes) x 1</td>
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<tr>
<td></td>
<td></td>
<td>Breath Focus I (12 minutes) x 2</td>
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<td></td>
<td></td>
<td>Body Scan I (22 minutes) x 2</td>
</tr>
<tr>
<td>Class 2</td>
<td>2.5 hours</td>
<td>1 hour (Theme: Body Awareness)</td>
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<tr>
<td></td>
<td>Body Scan (45 minutes) x 6</td>
<td>Coffee Break (11 minutes) x 1</td>
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<td></td>
<td></td>
<td>Walking Focus I (17 minutes) x 2</td>
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<tr>
<td></td>
<td></td>
<td>Body Scan II (25 minutes) x 2</td>
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<tr>
<td>Class 3</td>
<td>2.5 hours</td>
<td>1 hour (Theme: Breath as an Anchor)</td>
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<tr>
<td></td>
<td>Body Scan (45 minutes) x 3</td>
<td>Breath Focus II (20 minutes) x 2</td>
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<tr>
<td></td>
<td>Lying Yoga (45 minutes) x 3</td>
<td>Lying Yoga (35 minutes) x 2</td>
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<td>Three-minute Breathing Pause</td>
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<td>Class 4</td>
<td>2.5 hours</td>
<td>1 hour (Theme: The Watcher and the Talker)</td>
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<tr>
<td></td>
<td>Body Scan (45 minutes) x 3</td>
<td>Focus on Physical Sensation (23 minutes) x 2</td>
</tr>
<tr>
<td></td>
<td>Standing Yoga (45 minutes) x 3</td>
<td>Walking Focus II (22 minutes) x 2</td>
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<tr>
<td></td>
<td>Breath Meditation daily (20 minutes)</td>
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<tr>
<td>Class 5</td>
<td>2.5 hours</td>
<td>1 hour (Theme: Acceptance)</td>
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<td></td>
<td>Sitting Meditation (30 minutes) x 3</td>
<td>Focus on Sound and Thought (23 minutes) x 2</td>
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<tr>
<td></td>
<td>Body Scan or Yoga (45 minutes) x 3</td>
<td>Standing Yoga (37 minutes) x 1</td>
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<td>Class 6</td>
<td>2.5 hours</td>
<td>1 hour (Theme: Thought is Not Reality)</td>
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<tr>
<td></td>
<td>Sitting Meditation (30 minutes) x 3</td>
<td>Choiceless Awareness Meditation (25 minutes) x 1</td>
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<tr>
<td></td>
<td>Body Scan or Yoga (45 minutes) x 3</td>
<td>Focus on Bells and Poetry (20 minutes) x 1</td>
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<td>Class 7</td>
<td>2.5 hours</td>
<td>1 hour (Theme: Difficult Situations)</td>
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<tr>
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<td>Practice as desired (30-45 minutes) daily</td>
<td>Mindful Communication (15 minutes) x 1</td>
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<tr>
<td></td>
<td></td>
<td>Stress-free Driving (20 minutes) x 1</td>
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<tr>
<td></td>
<td></td>
<td>Stressful Situations (17 minutes) x 1</td>
</tr>
<tr>
<td>Class 8</td>
<td>3.5 hours</td>
<td>No Class (Theme: Building Your Haven)</td>
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<tr>
<td></td>
<td>Practice as desired (30-45 minutes) daily</td>
<td>The Window (23 minutes) x 1</td>
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<tr>
<td></td>
<td></td>
<td>The Oak (27 minutes) x 1</td>
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<tr>
<td></td>
<td></td>
<td>Progressive Muscle Relaxation (25 minutes) x 1</td>
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Day Retreat: 7.5 hours

<table>
<thead>
<tr>
<th>Time Commitment</th>
<th>MBSR</th>
<th>Dow Mindful Resilience Program</th>
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<tbody>
<tr>
<td>Classroom</td>
<td>29 hours</td>
<td>7 hours</td>
</tr>
<tr>
<td>Home Practice</td>
<td>42-48 hours</td>
<td>10.8 hours</td>
</tr>
<tr>
<td>Individual Interview</td>
<td>1.5 hours</td>
<td>None</td>
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<tr>
<td>Total</td>
<td>72.5 to 75.5 hours</td>
<td>17.8 hours</td>
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All Dow mindfulness exercises were accessed by participants through web based audio recordings.
Home practice time - (i.e. 45 minutes) denotes time per exercise.
Dow Participant Flow Chart

Health risk appraisal group contacted (n=600)

Contacted Dow study center (n=135)

Randomized (n=90) study size limitation

Allocated to mindfulness intervention (n=44)

Allocated to mindfulness wait-list control (n=45)

Did not begin allocated intervention (n=6)

Premature termination (n=2)

Completed < 50% material (n=2)

Followed up at PI: n= 36
FU: n=31

ITT sample (n=44) Complete sample (n=34)

Followed up at PIWL n=32

ITT sample (n=45) Complete sample (n=32)
Prior to the program, after the 8 week session, and following the 6 month follow-up period, all participants took the following scales:

- CD-RISC-Resiliency Scale
- Shirom Vigor Work Engagement Scale
- PSS 14-Perceived Stress Scale
- Five Facets of Mindfulness Scale
Trend in perceived stress by linear regression analysis: $p < .01$

**Stress in the Workplace**

- Research in the US shows that job stress costs U.S. businesses between $150 billion and $300 B annually.
- Approximately 60-85% of visits to primary care doctors are for stress-related causes.
- It is estimated that 40% of worker turnover is due to stress.
- In a recent study of 60,556 full-time employees from 58 large employers, the odds ratio for a workplace accident increased to 1.4 for workers with moderate to high levels of psychological distress.
Trend in resilience by linear regression analysis: $p<.01$

Resiliency and Positive Organizational Behavior (POB)

- POB - positive psychological capacities that can be measured, taught and that impact workplace performance.
- Results from a 2005 study in China indicate that positive states of hope, optimism and resiliency in workers significantly correlated with their performance as rated by supervisors.
- A later study corroborated these findings, confirming the impact of hope, optimism and resiliency on job performance, organizational commitment and organizational citizenship behavior.
Vigor and Engagement Results

Trends in vigor and work engagement by linear regression analysis: \( p < .01 \)

**Vigor in the Workplace**

- Recent studies have shown a positive relationship between vigor and client satisfaction, financial results and supervisor-ratings of job performance (Bakker, 2012).
- Associated with improved job satisfaction and decreased turnover (Salanova, 2005).
- Meta-analysis (2008) provides evidence that vigor, among other positive emotions, improves mortality in both healthy and diseased populations. Study in 2010 (\( n = 968 \)) showed high levels of vigor assoc. with 26% decrease mortality and 17% decrease in diabetes (Shirom, 2012)
Our study showed statistically significant improvements in four mindfulness facets:

<table>
<thead>
<tr>
<th>Mindfulness Facet</th>
<th>% change at 8 weeks</th>
<th>Sig. (2-tailed) 8 weeks</th>
<th>% change at 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observe</td>
<td>28.69%</td>
<td>.0001</td>
<td>29.10%</td>
</tr>
<tr>
<td>Describe</td>
<td>11.46%</td>
<td>.007</td>
<td>20.12%</td>
</tr>
<tr>
<td>Act with Awareness</td>
<td>19.88%</td>
<td>.001</td>
<td>22.36%</td>
</tr>
<tr>
<td>Non-React</td>
<td>20.89%</td>
<td>.001</td>
<td>26%</td>
</tr>
<tr>
<td>Non-Judge</td>
<td>10.45%</td>
<td>.187</td>
<td>13.05%</td>
</tr>
</tbody>
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Burnout Trends

Linear regression analysis showed the following statistically significant burnout trends:

- Number of high stress episodes per week decreased from 2.8 per day in week 1 to 1.5 after week 8. Linear regression analysis showed high stress episodes decreased at a rate of -.18 per week over the 8 week period.
- Days to burned out to work per week decreased from 1.67 in week 1 to .64 after week 8. Linear regression analysis showed episodes decreased at a rate of -.15 per week over the 8 week period.
- These changes were statistically significant.
Mediation and Conclusion

Mindfulness fully mediated:

~ Decreased perceived stress
~ Increased vigor and work engagement

Mindfulness partially mediated:
~ Increased resilience
Considerations
Delivery Format

In person vs. on-line platform

Time Urgency

Lowest effective dose?

Participants

Mandatory vs. self selected?

Program Length

Short or long term?
SUBSTAINABLE BEHAVIOR CHANGE

Mindfulness + Resiliency Coaching = Resilient Healthcare Workforce
Count to 10 Exercise