### Relationship Between Resident Learning Style, Occupational Stress, and In-Training Exam Scores

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#### Identification of Problem:
- In preparation for the ABIM exam, ACP’s In-Training Exam (ITE) is administered to residents annually.  
- Medical knowledge is a key component of success, but little emphasis is placed on other factors affecting test performance.  
- Assessing a combination of behavioral style, motivators, and Acumen Index has shown useful in identifying surgical residents at risk for low performance on ABSITE.  (PMID: 25600356)  
- Learning style, stress, and exam performance in Internal Medicine residents has not been studied to date.

#### Description of Innovation:
- During the 2016-2017 academic year, 23 categorical Internal Medicine residents participated in the following intervention:  
  - Vermunt’s Inventory of Learning Styles  
  - Osipow’s Occupational Stress Inventory  
  - Individualized session with a LPC (Licensed Professional Counselor)  
- 5 of 23 residents (22%) were recommended for additional sessions with LPC.  
- It was hypothesized that ITE score/percentile would improve after the intervention compared to prior residents.  
- Change in ITE raw score and percentile for individual residents from 2011-2016 (pre-intervention) was compared to 2017 data (post-intervention).

#### Results to Date:

<table>
<thead>
<tr>
<th>Year</th>
<th>Raw Score</th>
<th>Percentile</th>
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<tbody>
<tr>
<td>Pre-Intervention 2011-2016</td>
<td>8.33</td>
<td>4.7</td>
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<tr>
<td>Post-Intervention 2017</td>
<td>13.67</td>
<td>10.5</td>
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- Raw Score: \( t = 3.41; p < 0.005 \)  
- Percentile: \( t = 1.06; p = 0.293 \)

#### Discussion:
- Preliminary data shows a significant increase in raw score at each year of training and a trend toward an increase in percentile at each year of training.  
- It will be important to continue this innovation over the next 3-5 years in order to assess for true change in ITE performance.  
- Anonymous survey of the residents after they underwent the intervention showed:  
  - 56% mildly or strongly agree they will incorporate the learning style feedback  
  - 29% mildly or strongly agree they will incorporate the occupational stress feedback  
- Providing additional feedback and resources regarding occupational stress has additional benefits for the program as continued efforts to improve resident well-being are addressed.

#### Next Steps:
- Continue annual assessment of learning style and occupational stress with LPC for new PGY1 classes.  
- Results will be revisited after 2018 ITE results are available.