Differences Among University Instructors’ Adaptability

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Background

• COVID-19 pandemic forced online instruction for universities
• Instructors had to change teaching methods
• A wide array of teaching practices & strategies graduates better engineers
• Definition of adaptability: “individual’s capacity to constructively regulate psycho-behavioral functions in response to new, changing, and/or uncertain circumstances, conditions and situations”¹
• Two adaptability frameworks
  - Cognitive/behavioral & emotional
  - Work Stress, interpersonal, learning, creativity and uncertainty²

Methods

• Online survey with two instruments sent to 7 departments in the fall of 2021
  - “I am able to reduce negative emotions (e.g., fear) to help me deal with uncertain situations”¹
  - “I am easily rattled when my schedule is too full”²
• Scores based on factor pairings
• Descriptive statistics
• Statistical Analyses: t-test, ANOVA, Cohen’s d

Results

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Subgroup</th>
<th>Mean</th>
<th>p-value</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive/Behavioral</td>
<td>Male</td>
<td>25.4</td>
<td>0.003</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>27.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Adaptability</td>
<td>Male</td>
<td>37.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>39.2</td>
<td>0.025</td>
<td>0.64</td>
</tr>
<tr>
<td>I-ADAPT²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning</td>
<td>Male</td>
<td>36.6</td>
<td>0.049</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>39.1</td>
<td></td>
<td></td>
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<tr>
<td>Learning</td>
<td>Tenured</td>
<td>36.4</td>
<td>0.039</td>
<td>0.49</td>
</tr>
<tr>
<td></td>
<td>Tenure-Track</td>
<td>38.6</td>
<td></td>
<td></td>
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<tr>
<td>Creativity</td>
<td>Male</td>
<td>19.0</td>
<td>0.033</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>20.5</td>
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<td></td>
</tr>
</tbody>
</table>

Findings

• Female instructors scored higher in the following dimensions: cognitive/behavioral, total adaptability, learning and creativity
• Tenure-track instructors were more adaptable in the learning dimension
• Large effect size for all significant differences
• No differences in department or professor of practice vs traditional professor

Conclusions & Future Work

• Adaptability is a personality trait that is fixed in the context of workplace
• Certain personalities are drawn to careers in academia
• Need more career specific adaptability research
• Need to combine with course complexity trends to make Program of Tiered Commitments

Acknowledgements

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• NSF #1950597, REU Site: Sustainability of Horizontal Civil Networks in Rural Areas

References