Down with the sickness: Disturbing the imposter syndrome discussion

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Statement of Disclosures

• Jason Mordino and Spencer Sutton endorse no conflicts of interest and maintain no financial relationships that warrant disclosure.

• David Hughes is employed by Pfizer. No individuals or organizations aside from the presenters were involved in the development of this slide deck.
Objectives

• Describe imposter syndrome and its prevalence in pharmacy residents
• Identify imposter syndrome amongst pharmacy residents and cultivate methods to support residents
• Contrast clinical imposter syndrome with confident humility in new learning environments
• Explain practical precepting skills in managing learners at different levels in the Dunning Kruger Effect Curve
Continuing Education Credit

Requirements for receiving CE credit

• Successful completion of post-presentation questions
• Participation at live program
• Complete program evaluation form
• Please be sure to sign in to receive credit
• Links to evaluation/assessment forms will be on the MSHP website, mashp.org, please complete within 7 days of the meeting
Precept Responsibly

• “A podcast breaking down precepting into approachable topic over happy hour.”

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Imposter Syndrome: An Overview
Imposter Syndrome: A History

• Imposter Phenomenon (IP) Origins (AKA Imposter Syndrome)
  • Coined by PhD students Pauline Rose Clance and Suzanne Imes in 1978
  • Based on own graduate school experience
  • Developed the Clance IP Scale (CIPS)
  • Later identified 6 characteristic traits of imposter syndrome

• Imposter Syndrome was initially used to describe an internal experience prevalent among high achieving women
  • The seminal paper argues that “early family dynamics and later introjection of societal sex-role stereotyping” result in the imposter phenomenon
  • Since Clance’s work, subsequent clinical and non-clinical research has identified imposter syndrome’s impact across genders and levels of the career ladder
The Imposter Cycle

- Extreme anxiety results in over preparation or procrastination

- Sense of relief is replaced promptly with rejection of positive response

- Rationalize successes by undermining own efforts

- Thought process increases anxiety on future tasks

Superhumanism

• The need to be special or the very best
  • Identified characteristic of imposter syndrome
  • Associated with early-life high achievers joining communities of high achievers
  • Imposters feel insufficient based on comparison

• Superwoman/Superman aspects
  • Intertwined with then need to be special
  • Describes perfectionist need and anticipating of flawless performance
  • Impossible standards for self-evaluation result in disappointment and identification of self as a failure

IP Characteristics: Fear and Denial

Fear of Failure
- Imposters fear not performing at the highest level
- Avoidance of failure is achieved by overworking

Denial of Competence
- Imposters fail to deem praise as valid
- They reject evidence of success and seek evidence disproving their achievements
- Imposter syndrome ≠ false modesty

Fear/Guilt about Success
- Fear of success may arise from feeling of alienation
- Concern that success may result in greater expectations that cannot be maintained

Symptoms of Imposter Syndrome

- Self-handicapping behaviors
- Guilt proneness
- Shame proneness
- Low self-esteem
- Depression
- Anxiety

References:
IP/Perfectionism and the Student Experience

• Investigators assessed levels of distress, perfectionism, and imposter feelings
• 27.5% of participants experienced psychiatric levels of distress
• Correlation noted between distress, perfectionism and imposter feelings
• Pharmacy students were at the greatest risk

477 students at MUSC
Mean age 26.2 years
85% Caucasian

46% Medicine
21% Dentists
17% Nursing
15% Pharmacy
Prevalence and Predictors of IP

Students
- Fears related to maintaining social standing and not wanting to display imperfection to others
- Pessimism, perfectionistic traits, and low self-esteem,
- No differences in grades
- Expected to perform worse and were more anxious but were less likely to cheat or plagiarize

Minority groups
- Common among African, Asian, and Latino/a American college students
- Negatively correlated with psychological wellbeing and positively correlated with depression and anxiety
- Several factors may predispose minority students to increased psychological stress during educational experiences
  - lack of adequate financial aid
  - need to work to support themselves in school
  - racial discrimination
  - enduring negative stereotypes
  - being the first in their families to pursue advanced education

Gender
- 16/33 studies found higher rates in women but 17/33 found similar rates in men and women
- Another study looked at psychology students vs. professionals and only found gender effects among the students
- One study found that men and women cope differently with their imposter feelings

Age
- 2 studies reported increased age associated with less IP feelings
- 3 studies found no age effect

J Gen Intern Med 2020 Apr;35(4):1252-75
IP Among Pharmacy Residents

• Cross-sectional, survey-based examination of the prevalence of IP and impact on well-being among pharmacy residents

• Clance IP Scale (CIPS): Assess presence of Imposter Syndrome
  • Few ≤ 40
  • Moderate 41 – 60
  • Frequent 61– 80
  • Intense > 80

• Mayo Clinic Resident/Fell Well-Being Index (RWBI)
  • 7 question tool to assess distress
  • Scores ≥ 5 associated with personal/professional impact

Amer J Heal Sys Pharm 2020; 77(9): 690-696
IP Among Pharmacy Residents

- N = 818 responses collected
- CIPS Score > 60 → "Impostor"

**Mean CIPS Score of 64.0**
- Frequent: 47.6%
- Moderate: 33.3%
- Intense: 12.6%
- Few: 6.4%

**Mean RWBI Score of 4.2**
- 47.8% scored ≥ 5

### Table 2
Multiple Linear Regression of Selected Variables for CIPS Score (n = 709)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation (β)</th>
<th>P</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
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<tr>
<td>Female vs male</td>
<td>1.684</td>
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<tr>
<td>Prior mental health treatment</td>
<td></td>
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</tr>
<tr>
<td>Yes vs no</td>
<td>5.029</td>
<td>&lt;0.001*</td>
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<tr>
<td>Hours worked per wk</td>
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<tr>
<td>60-80 vs &lt;60</td>
<td>3.930</td>
<td>0.001*</td>
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<tr>
<td>&gt;80 vs &lt;60</td>
<td>9.845</td>
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**Table 3**
Multiple Logistic Regression of Selected Variables for RWBI Score of ≥ 5 (n = 709)

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<td>0.679</td>
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<td>≥31 vs ≤25</td>
<td>0.779</td>
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Do we need to eliminate IP?

• The impostor is much more willing to take others input because they are not self-insured
## Supporting an Imposter

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<th><strong>Break the Cycle</strong></th>
<th><strong>Debunk Superhumanism</strong></th>
<th><strong>Remove Fear</strong></th>
</tr>
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<tbody>
<tr>
<td>Support the early learner in setting clear goals/expectations/timelines</td>
<td>Establish the role of the learner</td>
<td>Value self-assessment. Challenge their rationale</td>
</tr>
<tr>
<td>Debrief with feedback and discussion on specific characteristics that resulted in success/failure</td>
<td>Honest Truth: You are not here to save the day. Remove this expectation</td>
<td>Identify overworking as a compensation mechanism</td>
</tr>
<tr>
<td>Avoid practice of comparison amongst peers</td>
<td>Foster interprofessionalism to learn from, not fear excellence</td>
<td>Praise exceptional work, but identify it as such</td>
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<tr>
<td></td>
<td></td>
<td>Be cognizant of workload. Historic success is not a request for tasks</td>
</tr>
</tbody>
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Imposter Syndrome vs Confident Humility
Introducing Confident Humility

Confident Humility: Self-assurance arising from an appreciation of one’s abilities, mediated by a humble view of one’s own importance.

Clinical training emphasizes independence and a rapid development of reasoning skills. A balance of confidence and competence is required, with an imbalance resulting in imposter feelings or undeserved confidence.
Aspects of Confident Humility

• The goal is to attain Confident Humility
  • Maintain faith in capabilities while acknowledging own limitations
  • Provides sufficient doubt to re-examine knowledge and confidence to pursue new insights
• **Confident humility can be taught**
  • Confident humility supports assessment of data contradicting personal belief resulting in more informed decision making
## Contrasting Confident Humility and IP

<table>
<thead>
<tr>
<th>Confident Humility</th>
<th>Imposter Phenomenon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic acknowledgement of own capabilities and limitations</td>
<td>Overcritical analysis of own capabilities and limited acknowledgement of external factors</td>
</tr>
<tr>
<td>Introspection supports active learning and effective utilization of resources</td>
<td>Feelings of insufficiency results in overworking or procrastination</td>
</tr>
<tr>
<td>Aspect of Learning Culture</td>
<td>Aspect of Performance Culture</td>
</tr>
<tr>
<td>Promotes thoughtful approach to problem solving</td>
<td>Promotes quick-response approach based to problem solving</td>
</tr>
</tbody>
</table>
Achieving Confident Humility

Be Introspective
- Humility acknowledges limitations in own understanding
- Identifying gaps in one's own knowledge supports identification of improvement
- Recognize that scientific literature is consistently evolving and requires continued review

Identify Weaknesses
- Be frank with your own weaknesses, and avoid spinning them as secret strengths
- Assess clinical weaknesses, interpersonal weaknesses, professional weaknesses
- Identify activities that can support improvement in weaknesses

Keep Learning
- Work to identify opportunities for continued improvement. Re-review literature and confirm plans for which you are unsure
- Identify questions that should be investigated at a later time, if standard workflow does not permit
- Admit limitations in your understanding. Seek interprofessional support to expand knowledge base

Interpersonal Management
- Be cognizant of how you respond to challenging situations and how this may impact change your personality/approach to practice momentarily
- Set relational goals. Identify how you would like to be perceived and work to achieve.
### Fostering a Culture of Confident Humility

<table>
<thead>
<tr>
<th>Practice what you preach</th>
<th>Develop a learning culture</th>
<th>Teach both sides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge your own limitations while precepting</td>
<td>Value the learning process over the final product</td>
<td>Challenge learners to consider different clinical perspectives</td>
</tr>
<tr>
<td>Demonstrate reflection, learning and interprofessionalism</td>
<td>Allow residents to demonstrate vulnerability</td>
<td>Discuss literature supporting and rejecting recommendations</td>
</tr>
<tr>
<td>Advocate for a practice of continued improvement</td>
<td>Teach residents how to learn</td>
<td>Ground learning in evidence, rather than “standard practice”</td>
</tr>
<tr>
<td></td>
<td>Exist as a safety net</td>
<td></td>
</tr>
</tbody>
</table>

The difference between an imposter and the confidently humble is a mutual understanding of expectations and role

*Diagnosis (Berl) 2020; 7(1): 11-15*
*BMC Med Educ 2022; 22: 88*
*A Key to Better Leadership: “Confident Humility.” 2022*
Confidence Over Time: Dunning Kruger Effect Curve
Dunning Kruger Effect

• Dunning Kruger Effect (DKE) Origins
  • Cognitive bias described by J Kruger and D Dunning in 1999
  • Assessed perceived and actual abilities of participants regarding humor, logic, reasoning, and grammar
  • Described tendency for low-performing individuals to overestimate their own social/intellectual capabilities
  • Conversely, high performing individuals underestimate their capabilities

• Risks of DKE
  • Tendency to reach incorrect conclusions
  • Unable to identify errors, limiting growth from learning experiences
  • Failure to identify own capabilities, decreasing appropriate confidence

DKE in comparison of Peers

Neural Correlates of the Dunning-Kruger Effect

| Population | 56 students at California State University  
All participants endorsed no neurologic/memory problems |
|------------|----------------------------------------------------------------------------------|
| Method     | Participants completed an item recognition confidence test based on word recollection and retrieval  
During retrieval, participants were monitored via EEG cap  
Participants ranked their perceived percentile of performance in comparison of their peers |
| Results    | Bottom three quartiles significantly overestimated performance, while the top quartile underestimated performance  
Over estimators provided more rapid responses, compared to those who appropriately or underestimated their performance |

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Eur J Neurosci 2021; 53(2): 460-484
The Dunning Kruger Effect Curve

• A misnomer made internet popular based on misinterpretation of the Dunning Kruger Effect
  • The proposed curve argues that the participants perceived themselves superior to experts, but the literature argues that they merely overestimate their own performance
  • The original work on DKE demonstrated that high performers did score themselves higher than low performers

• Is there utility in the internet’s explanation of confidence/competence?
  • Removing the concept of comparison, provides the core consideration that leaners at bad at assessing their own performance
  • Provides intersectionality of imposter syndrome and confident humility
  • Provides a thought framework for the learner
Peak of Mount Stupid: Rate of knowledge acquisition results in early overestimation of subject mastery

Valley of Despair: As rate of knowledge acquisition declines and acknowledgement of the breadth of knowledge increases, confidence decreases despite improved competence

Slope of Enlightenment: Longitudinal learning and development, acknowledging own limitations and supports confident humility approach to education

Plateau of sustainability: As mastery is achieved, the learner establishes appropriate confidence appropriate for competence

*Eur J Neurosci* 2021; 53(2): 460-484
Precepting the Confidently Incompetent

• Audience Responses Welcome!
Precepting the Unconfidently Incompetent

• Audience Responses Welcome!
Precepting the Unconfidently Competent

- Audience Responses Welcome!
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