A Description of Impostor Phenomenon in Certified Registered Nurse Anesthesiologists

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Jeffrey R Darna, PhD, DNP, CRNA, ACNP-BC, FAANA

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Disclosure Statement

Conflict of Interest Disclosure Statement

Jeffrey R Darna, PhD, DNP, CRNA, ACNP-BC, FAANA

• I have no financial relationships with any commercial interest related to the content of this activity.
• I will not discuss off-label use during my presentation.
Learner Outcomes

At the conclusion of the presentation, the learner will be able to:

1. Identify and describe Impostor Phenomenon in Certified Registered Nurse Anesthesiologists

2. Explain how Impostor Phenomenon may influence clinical practice, leadership opportunities, and individual wellbeing.

3. Discuss strategies to manage Impostor Phenomenon tendencies in themselves and the nurse anesthesia profession.
Research Team

Ruth A. Bush, PhD, MPH, FAMIA
Professor
University of San Diego, Hahn School of Nursing

Eileen Fry-Bowers, PhD, JD, RN, CPNP, FAAN
Dean
University of San Francisco, School of Nursing

Lorraine M. Jordan, PhD, CRNA, CAE, FAAN
Chief Advocacy Officer
American Association of Nurse Anesthesiology
Impostor Phenomenon is the self-perception of intellectual phoniness and professional ineptitude despite clear evidence of success often experienced by high-achieving individuals that results in avoidance behavior, professional under-development, and psychological distress.

Feel like a fake
Discount praise
Attribute success to luck or an error
Impostor Phenomenon Origins

- Clance & Imes (1978)
- Georgia State
- Feminism Movement, Second Wave
- Published Case Series
- Psychotherapy with 150 women
  - Accomplished professionals
  - Women self-identified as frauds

Photo Source: https://www.psychologytoday.com/
**Clance & Imes: Main Findings**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP behavior emerges from common societal expectations, e.g., girls cannot perform math</td>
<td></td>
</tr>
<tr>
<td>Impostors use maladaptive behaviors to conceal their perceived intellectual inadequacy</td>
<td></td>
</tr>
<tr>
<td>Persistent fear of being discovered as an intellectual fraud</td>
<td></td>
</tr>
<tr>
<td>Avoided conflict or expressing contrasting viewpoints because of fear of being perceived as unintelligent</td>
<td></td>
</tr>
<tr>
<td>Using charm &amp; insightfulness to obtain support</td>
<td></td>
</tr>
<tr>
<td>Avoiding adverse societal effects that occur when women express confidence</td>
<td></td>
</tr>
</tbody>
</table>
Literature Synthesis

- **Prevalence**: 9 to 82% across multiple, peer-reviewed professions
- **Gender IP Prevalence**: Women = Men
- **Gender IP Intensity**: Women ≠ Men
- **Nursing Prevalence**: 74.6% CNS, 46.6% Physicians
- **Associated Conditions**: • Psychological distress • Anxiety • Depression • Low self-esteem
- **Correlations** with Racism, Identity, & Survivor Guilt
- **Inverse Relationship** with Age & Professional Experience
- **45 Years & 350 Research Studies**

Cross-sectional Correlational Study Designs Measuring IP in a Specific Population
Some Considerations

- Not an official psychological disorder
- No standardized diagnostic criteria
- No EBP guidelines
- Evolving, multidimensional construct
IP Concept Relationship

Antecedents
- Personality
- Attribution
- Family
- Sociodemographic
- Professional Context

Defining Attributes
- The Impostor Cycle
  - Desire to be Special / the Best
  - Perfectionism
  - Fear of Failure
  - Fear & Guilt Around Success
  - Denying Ability/Discounting Praise

Consequences
- Fear of discovery as a fraud
- Threats to wellbeing
- Fear of engagement
- Avoidance behavior

Source: Clance, 1985
The Impostor Cycle

Fraud perception → Increased self-doubt

Increased success → Depression

Depression → Anxiety

Anxiety → Increased success

Cycle leads to fear of being exposed as an impostor

Source: Clance, 1985
IP Induced Pathway

Assigned Task

Over-preparation
- Success through hard work
- Rejects positive feedback

Procrastination
- Frantic effort to complete Work
- Rejects positive feedback
## Select Career-related Effects of IP

<table>
<thead>
<tr>
<th>Excessive &amp; Compulsive Work</th>
<th>Group Micromanaging</th>
<th>No Independent Practice</th>
<th>Professional Sub-Optimization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnout</td>
<td>Evading Leadership Roles</td>
<td>ACT Member Underutilization</td>
<td>Career Dissatisfaction</td>
</tr>
</tbody>
</table>

Measuring Impostorism

Clance Impostor Phenomenon Scale

Harvey Impostor Phenomenon Scale

Leary Impostor Scale

Perceived Fraudulence Scale

Young Impostor Scale
CIPS Instrument (Most Frequently Used)

20 item, self-administered psychometric instrument
5-point Likert scale response
Measures IP presence and frequency
Score range 20 to 100
  • Clance (1985) 40 indicates IP
  • Holmes et al. (1993) 62 (based on 1 FP/0 FN)
  • Cozzarelli & Major (1990) median split score
    • 65 (positive IP) and 48 (negative IP)
Cronbach's alpha ranged from 0.85 to 0.96
Three subscales:
  • fake (.84), discount (.79), & luck (.70)
Sufficient content validity
Uncertain construct validity
  • Chrisman (1995) EFA (assumed perfect reliability)
  • French et al (2008) CFA (high interconnectedness)
    • LuckFake = 0.79
    • LuckDiscount = 0.77
    • DiscountFake = 0.97
Total CIPS score recommended for diagnosis
Are CRNAs at Risk for IP?

- Intellectual
- Skilled profession
- Advanced education & training
- High achievers
- Peer reviewed
- Evaluated on outcomes
- Societal expectations
- Inter-professional messaging

Photo Source: http://clipart-library.com/
IP Self-Measurement
Measure Your IP Tendencies – Voluntary Assessment

1. QR Code

2. Copy to a Browser
https://usc.qualtrics.com/jfe/form/SV_eVxfQKD8OAb0BbU

3. Limited paper surveys for in-person attendees

At the END of the Survey - Note Your TOTAL Score
Join by Text  Send jdarna401 to 22333

Clance Impostor Phenomenon Survey - January 2023

0% 0% 0% 0%
## CIPS Scoring

<table>
<thead>
<tr>
<th>CIPS Score Range</th>
<th>Impostor Tendency</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to 40</td>
<td>Few IP Feelings</td>
</tr>
<tr>
<td>41 to 60</td>
<td>(indicates clinically-relevant IP)</td>
</tr>
<tr>
<td>41 to 60</td>
<td>Moderate IP Feelings</td>
</tr>
<tr>
<td>61 to 80</td>
<td>Frequent IP Feelings</td>
</tr>
<tr>
<td>81 to 100</td>
<td>Intense IP Feelings</td>
</tr>
</tbody>
</table>
## IP Management Suggestions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Name it</td>
<td>• Place a name on the feeling; keeps it in context</td>
</tr>
<tr>
<td></td>
<td>• Reflect on whether the feeling is justified</td>
</tr>
<tr>
<td>• Mentorship</td>
<td>• Find a peer mentor and seek objective feedback</td>
</tr>
<tr>
<td>• Consider your strengths</td>
<td>• Maintain a list of accomplishments</td>
</tr>
<tr>
<td>• No one is perfect</td>
<td>• Be willing to be uncomfortable</td>
</tr>
<tr>
<td></td>
<td>• Mistakes are inevitable</td>
</tr>
<tr>
<td>• Change your thinking</td>
<td>• Be aware of negative self-talk – it has no value</td>
</tr>
<tr>
<td></td>
<td>• Choose a different script</td>
</tr>
<tr>
<td>• Keep learning</td>
<td>• Be honest with what you do not know</td>
</tr>
<tr>
<td></td>
<td>• Ask for help</td>
</tr>
<tr>
<td>• Just do it – “Shipping”</td>
<td>• Get comfortable with being uncomfortable</td>
</tr>
<tr>
<td></td>
<td>• Mindfully work through your concerns</td>
</tr>
</tbody>
</table>
National Research Data

A Description of Impostor Phenomenon in Certified Registered Nurse Anesthesiologists
Primary Research Question

What is the prevalence and intensity of impostor phenomenon in certified registered nurse anesthesiologists?
Study Aims

**Primary aim:** to describe select sociodemographic variables, anesthesia practice model, CRNA practice behaviors, and impostor phenomenon in a random sample of CRNAs.

**Secondary aim one:** to describe the relationship between select sociodemographic variables, anesthesia practice model, CRNA practice behaviors, and IP in a random sample of CRNAs.

**Secondary aim two:** to describe the variance in IP accounted for by select sociodemographic variables, anesthesia practice model, and CRNA practice behaviors in a random sample of CRNAs.
Methods

- Cross-sectional, descriptive
- Correlation design

Random Invitations

- AANA Membership Databank
- Email

Two Electronic Surveys

- CIPS
- Demographic & practice variables
  - USGRA, CVC, Specialty, PoCUS

Study Duration

- One month
Participant Recruitment

- **348** Participants Desired
- **3000** Random Email Invitations
- **1 Month** Recruitment Period with a Reminder
- **48.9%** of the *a priori* calculation
- **5.7%** Response Rate
- **No Request for Exemption to Invitation Cap**

Set Inclusion & Exclusion Criteria
Participants Included in Final Analysis

Study Inclusion Criteria
- Active NBCRNA Certification
- Active AANA Membership
- Active CRNA Clinical Practice

Email Invitations Circulated ($n = 3,000$)

Records Available for Data Analysis ($n = 188$)

Excluded from Analysis: Incomplete Records ($n = 18$)

Participants Included in Final Analysis ($n = 170$)
Sample Characteristics

Mean Age

51.5 Years

Gender Identity

- Female: 46%
- Male: 53%
- Not Disclosed: 1%

Race/Ethnicity

- Asian: 2
- Black: 5
- Latinx: 2
- White: 159
- Undisclosed: 2

Mean Practice Years

18.3 Years

Practice Model

- Medical Direction: 22, 13%
- Medical Supervision: 56, 33%
- Independent - Group: 38, 22%
- Independent - Solo: 54, 32%

Education Level

- Certificate/Diploma: 0
- Associate’s Degree: 50
- Bachelor’s Degree: 100
- Master’s Degree: 150
- Practice Doctorate: 2
- Research Doctorate: 3
- Other: 0

Practice Setting

- Academic: 38
- Community: 77
- CAH: 11
- VA: 7
- Military: 5
- ASC: 20
- Office: 8
- Other: 4

State Scope

- Full Practice Authority: 51
- Independent Practice: 41
- MD Collaboration: 22
- MD Supervision: 56
Sample vs 2021 AANA Membership Data

<table>
<thead>
<tr>
<th></th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.001</td>
</tr>
<tr>
<td>Gender</td>
<td>.048</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>.025</td>
</tr>
<tr>
<td>Years of Practice</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

*Note. Chi-square Goodness-of-Fit test*
Primary Aim

55.9% Prevalence

44.6 Mean CIPS Score
CIPS Score Distribution

- <40: 75
- 41-60: 69
- 61-80: 24
- 81+: 2

CIPS Score Ranges
CIPS Score Ranges by Mean Age

- Under 40: 53.4
- 41-60: 50.9
- 61-80: 47.9
- 81+: 44.5
CIPS Scores by Gender Identity

<table>
<thead>
<tr>
<th>Participant</th>
<th>CIPS Score Range</th>
<th>Female</th>
<th>Male</th>
<th>Prefer Not to Disclose</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td>45.9%</td>
<td>53.5%</td>
<td>0.6%</td>
</tr>
<tr>
<td>&lt;40</td>
<td>43.2%</td>
<td>56.7%</td>
<td>0.6%</td>
<td>0</td>
</tr>
<tr>
<td>41-60</td>
<td>44.9%</td>
<td>55.1%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>61-80</td>
<td>54.2%</td>
<td>45.8%</td>
<td>0</td>
<td>1.2%</td>
</tr>
<tr>
<td>81+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
CIPS Scores by Mean Practice Years

CIPS Score Range

<table>
<thead>
<tr>
<th>Practice Years</th>
<th>CIPS Score</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40</td>
<td>20.3</td>
<td></td>
</tr>
<tr>
<td>41-60</td>
<td>17.3</td>
<td></td>
</tr>
<tr>
<td>61-80</td>
<td>15.4</td>
<td></td>
</tr>
<tr>
<td>80+</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>
CIPS Scores by Practice Setting

Participants

CIPS Score Range

<40  41-60  61-80  81+

Academic Center  Community Hospital  Critical Access Hospital  Veterans Administration  Military  Surgical Center  Office  Other
## Secondary Aim 1

<table>
<thead>
<tr>
<th>CIPS Score Arrangement</th>
<th>3 Categories p value</th>
<th>≤40 vs &gt;40 p value</th>
<th>≤60 vs &gt;60 p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Identity (Male/Female) (n = 169)</td>
<td>.430</td>
<td>.503</td>
<td>.199</td>
</tr>
<tr>
<td>Race/Ethnicity (5 Categories)</td>
<td>.538^</td>
<td>.045^</td>
<td>&gt;.999^</td>
</tr>
<tr>
<td>Race/Ethnicity (Non-Hispanic White/Other)</td>
<td>.044^</td>
<td>.012^</td>
<td>.219^</td>
</tr>
<tr>
<td>Education Level (7 Categories)</td>
<td>.234^</td>
<td>.179^</td>
<td>.410^</td>
</tr>
<tr>
<td>Age (Continuous)</td>
<td>.041^</td>
<td>.033^</td>
<td>.039^</td>
</tr>
<tr>
<td>Years of Practice (Continuous)</td>
<td>.018^</td>
<td>.012^</td>
<td>.031^</td>
</tr>
<tr>
<td>Anesthesia Model (4 Categories)</td>
<td>.571</td>
<td>.383</td>
<td>.491</td>
</tr>
<tr>
<td>Anesthesia Practice Setting (8 Categories)</td>
<td>.265^</td>
<td>.277^</td>
<td>.259^</td>
</tr>
<tr>
<td>State Scope of Practice (4 Categories)</td>
<td>.237</td>
<td>.106</td>
<td>.347</td>
</tr>
<tr>
<td>Regional Anesthesia Frequency (6 Categories) (n = 142)</td>
<td>.473^</td>
<td>.553^</td>
<td>.303^</td>
</tr>
<tr>
<td>Central Line Placements (6 Categories) (n = 139)</td>
<td>.892^</td>
<td>.921^</td>
<td>.721^</td>
</tr>
<tr>
<td>PoCUS Frequency (6 categories) (n = 123)</td>
<td>.622^</td>
<td>.757^</td>
<td>.368^</td>
</tr>
<tr>
<td>Anesthesia Planning &amp; Decision-Making Frequency (6 Categories) (n = 169)</td>
<td>.841^</td>
<td>.720</td>
<td>.508^</td>
</tr>
<tr>
<td>Anesthesia Specialty Practice/Focus (3 Categories) (n = 27)</td>
<td>.360^</td>
<td>.494^</td>
<td>.134^</td>
</tr>
</tbody>
</table>
Secondary Aim 2

Multivariate analyses were NOT performed. Significant bivariate relationships were not found between CIPS scores and the independent variables.
Discussion: Primary Aim

Sample Characteristics
- Age
- Gender
- Race/Ethnicity
- Education
- Practice Years
- Primary Practice Setting

Prevalence
Impostor Phenomenon Intensity
Discussion: Secondary Aim 1

Race & Ethnicity  Age  Practice Years
Implications

Practice

Wellness

Research

Education

Policy
Limitations

Research Design

Sample

- Size, underpowered
- Homogeneity
- Non-representative of AANA membership

Different independent variables
Research Summary & Conclusion

• IP has resurfaced in the professional literature
• IP is an evolving, multidimensional construct
• **Firm diagnostic criteria & treatment remain elusive**
  • The CIPS instrument is reliable and validated
• **IP is prevalent in CRNAs and may manifest in CRNAs differently**
• IP may impede role optimization, career advancement, & threaten wellbeing.
• **More research needed to elucidate IP dimensionality in CRNAs, possibly with different variables**
Closing Thoughts

You are real.
You are valued.
You deserve the accolades & praise.

CRNA focused. CRNA inspired.