Undermining Confidence: Examining Trainees’ Perspectives on Confidence in General Surgery
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Background
• Building confidence is essential to general surgery training and resident flourishing.
• Past studies show gender differences in resident confidence and self-rated performance, and characterize resident-identified factors influencing surgical confidence.
• Yet, confidence, and what it means to trainees, is not clearly defined.
• Barriers and gender disparities in the development of confidence need to be explored further.

Objective
Better understand surgical confidence by exploring the following:
• Definitions of confidence
• Descriptions of confident role models
• Perceptions of obstacles to enacting confidence

Methods
• A single academic hospital study
  • Inclusion criteria:
    ◦ 3rd/4th year medical students who have completed general surgery rotation(s)
    ◦ General surgery residents
  • Semi-structured, anonymous interviews
    ◦ Recruitment flyers and emails
    ◦ Single interviewer (MK)
    ◦ Telephone, Zoom, or in-person interviews from February to March 2023
  • Data analysis
    ◦ Grounded theory approach
    ◦ Iterative thematic coding using NVivo 12 (QSR International)

Results
When asked to define confidence...
• Self-assurance was most mentioned trait in definitions of confidence, cited by 44% of subjects.
• Associated behaviors included being blunt and authoritative, external acts like “crossing arms” or “doing a power stance,” and male-gendered traits, like being loud or tall.
• Participants identified types of confidence—true, quiet, false, arrogance or overconfidence, and bravado—making clear that not all displays are good.

Gender norms, career fit, and confidence
• Gender stereotypes and perceptions of being a poor fit for surgery due to appearances, personalities, or presumed lifestyle choices (i.e. having a family) undermined confidence in almost all female residents.
• The archetypical surgeon, described as an “iron (man)” in the ‘90s by Joan Cassell and 2000s by Katherine Kellogg, was a macho figure who was indefatigable and unemotional.
• However, female mentorship seems to liberate participants from gender roles.
• At this institution, 45.9% are female faculty: Females comprise 22.6% of the surgeon workforce, per 2021 AAMC report.

Conclusion
Defining confidence is complex; individuals identified a variety of traits or behaviors (some gendered) that potentially introduce implicit bias when evaluating trainee confidence. For female trainees, barriers to embodying confidence remain, though somewhat mitigated by the presence of female mentors at the institution. To move forward, we must be alert to how gender and racial bias influence trainee confidence and our perceptions of it.

References

Figure 1. Word cloud of traits most identified as confidence behaviors. Word size represents relative frequency.

Table 1. Demographics of the interview subjects.

<table>
<thead>
<tr>
<th>Subject Characteristics</th>
<th>Age, median</th>
<th>Gender, n</th>
<th>Race, n</th>
<th>Stage in Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median</td>
<td>27</td>
<td>19</td>
<td>1</td>
<td>Medical students, n (F,M) 20 (13F, 7M)</td>
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<tr>
<td>Gender, n</td>
<td>Female, n</td>
<td>Male, n</td>
<td>White, n</td>
<td>Planning surgical residency (%)</td>
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<tr>
<td></td>
<td>19</td>
<td>8</td>
<td>Hispanic, n</td>
<td>Y (60%)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Asian, n</td>
<td>White, Native American, n</td>
<td>N (40%)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Asian, n</td>
<td>White, Asian, n</td>
<td>7 (6F, 1M)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Asian, n</td>
<td>Black or African American, n</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Middle Eastern, n</td>
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</table>

Table 2. Stage of training.

<table>
<thead>
<tr>
<th>Stage in Training</th>
<th>Medical students, n (F,M)</th>
<th>Planning surgical residency (%)</th>
<th>Residents, n (F,M)</th>
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</thead>
<tbody>
<tr>
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<td>PGY-2, n</td>
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<td>PGY-5, n</td>
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<td>Research</td>
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