What to do when it feels like everyone in graduate school is smarter than you? (Alt. title: I don’t belong here)
Graduate School is Awesome

Surrounded by intelligent, motivated, usually quirky individuals

Access to journals on the latest innovations in your field

More freedom to pursue courses that suit your interests and research

Always something new and exciting in which to be involved
Transition to Graduate School

Different from undergraduate experience (academically, financially, emotionally, etc.)

People not understanding it is different

New and changing power relationships

Teaching and/or research responsibilities

Searching for funding
Some Sources of Graduate School Anxiety

Transition Period
Advisors
Imposter Syndrome
Stereotype Threat
General Anxiety
Overextension
Perfectionism
Have you ever felt like this?

“I don't belong here...I'm clever and hard--working enough to have faked them out all these years and they all think I'm great but I know better...and one of these days they're going to catch on...they'll ask the right question and find out that I really don't understand...and then...and then....” (Felder, 2008)

Then you have experienced the Impostor Phenomenon
What is impostor syndrome

Impostor phenomenon described by psychologists in the late 1970s

A collection of feelings of inadequacy that persist even in face of information that indicates that the opposite is true:
- Chronic self-doubt
- Feelings of intellectual fraudulence
Famous Quotes

“I have written 11 books but each time I think ‘Uh-oh, they’re going to find out now. I’ve run a game on everybody, and they’re going to find me out.’” – Maya Angelou

“The beauty of the impostor syndrome is you vacillate between extreme egomania and a complete feeling of: ‘I’m a fraud! Oh God, they’re on to me! I’m a fraud!’ . . . just try to ride the egomania when it comes and enjoy it, and then slide through the idea of fraud.” – Tina Fey

“I am not a writer. I’ve been fooling myself and other people.” – John Steinbeck
Who experiences Impostor Syndrome?

High achievers

All genders

Common among people embarking on new endeavor (e.g., graduate school)

Impostor feelings exacerbated when from an underrepresented groups

Andersson, 2012
Impostor Feelings

Feeling like a fraud

Feeling like you are not smart enough or good enough

Feeling like you don’t belong/fit in

Feeling like you are about to get caught
Caveats

Severity depends

Duration depends

Behaviors & characteristics depend
Common characteristics

Attribute their accomplishments to external factors (e.g., luck)
  ◦ Attribute their failures and setbacks to inability/incompetence

Unrealistic notions of what it means to be competent – internal bar is exceedingly high

Fear that others will unmask as a fraud

Generalized anxiety

Depression

Desire for perfectionism & rarely ask for help
Common behaviors

Diligence and hard work
- Over-preparation
- Unfortunate cycle

Procrastination

Intellectual inauthenticity

Using charm and/or perceptiveness to win over superiors
What increases likelihood of experiencing impostor syndrome/phenomenon?

Environmental factors

- Societal pressures for achievement
- Big emphasis on achievement in family setting
- Received mixed messages alternating between over-praise and criticism
- Self-worth becomes contingent on achieving due to personal and societal pressures

Personality traits
Big Five Model of Personality Traits

Correlation with following characteristics

- Introversion
- Trait anxiety
- A need to look smart to others
- A propensity to shame
- Conflictual and non-supportive family background

Low correlation between

- Self-esteem
- Self-monitoring

Impostor phenomenon seen as way to compensate for feelings of insecurity and self-doubt

<table>
<thead>
<tr>
<th>Low Score</th>
<th>Trait</th>
<th>High Score</th>
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<tbody>
<tr>
<td>Practical, conventional, prefers routine</td>
<td>Openness (imagination, feelings, actions, ideas)</td>
<td>Curious, wide range of interests, independent</td>
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<tr>
<td>Impulsive, careless, disorganized</td>
<td>Conscientiousness (competence, self-discipline, thoughtfulness, goal-driven)</td>
<td>Hardworking, dependable, organized</td>
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<tr>
<td>Quiet, reserved, withdrawn</td>
<td>Extroversion (sociability, assertiveness, emotional expression)</td>
<td>Outgoing, warm, seeks adventure</td>
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<tr>
<td>Critical, uncooperative, suspicious</td>
<td>Agreeableness (cooperative, trustworthy, good-natured)</td>
<td>Helpful, trusting, empathetic</td>
</tr>
<tr>
<td>Calm, even-tempered, secure</td>
<td>Neuroticism (tendency toward unstable emotions)</td>
<td>Anxious, unhappy, prone to negative emotions</td>
</tr>
</tbody>
</table>
Intersectionality with other challenges in engineering & academia

Mental illness & Mental Health
- Impostor feelings can be compound mental health issues
- Perfectionism
- Generalized anxiety
- Depression

Underrepresented groups
- Stereotype threat
- Fear that need to work twice as hard to be half as good
- Differing from peers in any way – race, gender, sexual orientation, college pathway, socio-economic status
- Family expectations

![Graph showing representation in science and engineering occupations](image)

*Scientists and engineers working in science and engineering occupations: 2015*

- White men 49%
- Asian men 14%
- Asian women 7%
- Black men 3%
- Hispanic men 4%
- Hispanic women 2%
- Other men 1%
- Other women 1%

*NOTES: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Women, Minorities, and Persons with Disabilities in Science and Engineering: 2017*

![Graph showing underrepresented minority in S&E](image)

*What does 'underrepresented minority' mean?*

Some groups have disproportionately low representation in science and engineering (S&E) compared to the U.S. population. Groups like Asians and whites have higher representation.

**Underrepresented at all levels**
- Blacks, Hispanics and Native Americans or Alaska Natives account for roughly 31% of U.S. residents.

How does that number compare to their representation in science and engineering?

- S&E bachelor’s recipients: 21%
- S&E doctorate recipients: 13%
- Employment in S&E occupations: 11%

*Source: National Center for Science and Engineering Statistics, National Science Foundation Women, Minorities, and Persons with Disabilities in Science and Engineering: 2017*
Imposter syndrome - struggles

Trouble putting impostor feelings and worry about their errors in perspective

Many are adept at hiding struggle from others & struggle in silence

Retention

Self-sabotage

Burn-out

Lack of enjoyment due to mental exhaustion
Example: Colleen Bronner
Now for a more upbeat note
What can you do to help you or someone else?

Demonstrate that you are not alone
- Decrease stigma
- Share stories of when you failed
- Share impostor feelings

Realize impostor feelings both normal and irrational

Challenging your cognitive processing
- Tracking evidence of successes/failures or weaknesses/strengths
- If feel incompetent, write down evidence for and against
- Record of how you handle positive feedback
What can you do to help you or someone else?

Change behaviors
- Time limits for assignments/papers
- Deadlines to turn drafts over to a peer
- Stop deflecting compliments and saying “I’m sorry”
- Challenge yourself to ask a question in seminar/lecture

Assess strengths realistically
- Don’t set your baseline at a professors with 20-30 years of experience

Remember what you have achieved in a tangible manner
- Write down achievements
- Mentor/tutor less experienced students
- “Things for rainy days” files
What can you do to help you or someone else?

Realize perfection/super human model is a myth
- Ask someone you view as “successful” to discuss a time they struggled or failed
- Learn more about role models

Develop support network
- Family, friends, pets
- Someone trained to help (e.g., therapist, psychologist)

Schedule time for healthy habits (e.g., exercise, sleep)

Celebrate successes
Support Networks: You Are Not Alone!

Other graduate students

Faculty

University counseling centers and support groups

Professional organizations

External Resources

https://shcs.ucdavis.edu/
Resources: Grad Pathways

https://grad.ucdavis.edu/professional-development/gradpathways
Student Support Centers on Campus

Center for Chicanx and Latinx Academic Student Success - https://cclass.ucdavis.edu/
Center for African Diaspora Student Success - https://cadss.ucdavis.edu/
Center for Advocacy, Resources, and Education (CARE) - https://care.ucdavis.edu/
Student Disability Center - https://sdc.ucdavis.edu/
Veterans Success Center - https://opportunity.ucdavis.edu/centers/vsc
Women’s Resource and Research Center - http://wrrec.ucdavis.edu/
Student Organizations at UC Davis

American Water Works Association (BBQ on Friday) - http://awwaucdavis.weebly.com/
Black Engineers Association (associated with NSBE) - http://beaucdnsbe.weebly.com/
Chicano and Latino Engineers and Scientists Society (associated with SHPE) - http://caless.engineering.ucdavis.edu/
Engineers Without Borders - https://ewbucd.weebly.com/
Geotechnical Graduate Student Society - https://cee.engr.ucdavis.edu/ggss/
Graduate Student Association
oSTEM - https://www.facebook.com/ostematucdavis/
Society of Women Engineers - http://sweucd.org/
Others...
Other Campus Resources

<table>
<thead>
<tr>
<th>For Students</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>Alcohol &amp; Drug Abuse Prevention &amp; Treatment (ADAPT)</td>
<td>530.752.6334</td>
</tr>
<tr>
<td>Cal Aggie Escort Services (Night Services)</td>
<td>530.752.1727</td>
</tr>
<tr>
<td>Campus Violence Prevention Program (CVPP)</td>
<td>530.752.3299</td>
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<tr>
<td>Cross Cultural Center</td>
<td>530.752.4287</td>
</tr>
<tr>
<td>Educational Opportunity Program (EOP)</td>
<td>530.752.9711</td>
</tr>
<tr>
<td>The House: Peer-to-Peer Counseling Services</td>
<td>530.752.2790</td>
</tr>
<tr>
<td>Lesbian, Gay, Bisexual, Transgender Resource Center</td>
<td>530.752.2452</td>
</tr>
<tr>
<td>Sexual Harassment Anonymous Call Line</td>
<td>530.752.2255</td>
</tr>
<tr>
<td>Student Disability Center</td>
<td>530.752.3184</td>
</tr>
<tr>
<td>Student Health and Wellness Center (SHWC)</td>
<td>530.752.2349</td>
</tr>
<tr>
<td>Transfer, Reentry, Veterans Center:</td>
<td></td>
</tr>
<tr>
<td>Transfer</td>
<td>530.752.2200</td>
</tr>
<tr>
<td>Veterans</td>
<td>530.752.2020</td>
</tr>
<tr>
<td>Women’s Resources &amp; Research Center (WRRC)</td>
<td>530.752.3372</td>
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Failure is OK, just Fail Forward

Learn more from failures than successes

Remember that a project failing doesn’t indicate that you are a failure.

Restarting/rebooting is OK

Perfect is boring

Quote by Anna Quindlen;
Image from “A Mighty Girl”
It is our light, not our darkness that frightens us.

We ask ourselves, who am I to be brilliant, gorgeous, talented, and fabulous?

Actually, who are you not to be?

Your playing small doesn’t serve the world.

There is nothing enlightened about shrinking so that other people won’t feel insecure around you...

As we let our light shine, we unconsciously give other people permission to do the same.

As we are liberated from our own fear, our presence automatically liberates others.
Remember Proper Etiquette

Jorge Cham @THE STANFORD DAILY
Articles of Interest

http://www.sciencemag.org/careers/2008/02/no‐youre‐not‐impostor
http://paulineroseclance.com/pdf/-Langford.pdf
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5594221/