Becoming a Resilient Scientist... Understanding cognitive distortions and imposter fears

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Important Question to Start

- What changes focused on your wellness and resilience did you make in the last two weeks?
Remember

Resilience = People + Process + Preparation

http://www.psychologytoday.com/blog/design-your-path/201305/10-traits-emotionally-resilient-people
A Reminder....

https://beckinstitute.org/cognitive-model/
To Be Resilient We Have To

- Learn from previous experiences, both good and bad
- Build strong positive relationships with peers and mentors
- Be proactive and use resources to thrive
- Be mindful about how we approach setback and engage with our distorted self-talk (our inner critic/inner champion)
- Develop our emotional literacy and understand how strongly emotions can impact our response to setback and disappointment

We Are All Story Tellers….

- About
  - ourselves and our place in our world
  - what is happening to us and why it is happening

- And impacted by stories others have told (or are telling) us
  - even without our consent
  - important people or people we do not even know
So....Two Questions For You....

What are some of the stories you generally tell about you?
So…. Two Questions For You…. 

What are some of the stories you generally tell about you?

What are some of the stories scientists generally tell about science?
We Are All Story Tellers….

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- These stories can lift us up…. or drag us down
  - helpful or unhelpful?
  - accurate or inaccurate (in whole or in part)?
  - relevant or irrelevant (now or in general)?
Remember This Important Concept

JACKAL
Unrealistic
Unhelpful
Unkind
Closed
Disrespectful
Fixed mindset
About blame

GIRAFFE
Realistic
Helpful
Kind
Open
Respectful
Growth mindset
About accountability

OSTRICH
Unrealistic
Unhelpful
Complicated
Closed
Disrespectful
Fixed mindset
About blame
The ABCs

ACTIVATING EVENT → BELIEFS → CONSEQUENCES

Our locus on control

https://positivepsychology.com/albert-ellis-abc-model-rebt-cbt/
Elements of Our Stories

- Cognitive distortions…. leading to pessimistic attitudes and feelings of helplessness and hopelessness
- Imposter fears…… leading us to feel like we don’t belong

https://tinybuddha.com/blog/change-life-changing-stories-tell-yourself/
Cognitive Distortions

- **Characteristic ways** that our mind convinces us of something that is really not true to reinforce negative thinking or emotions.

- Generally serve to keep us feeling bad about ourselves and can lead us to feel very anxious and pessimistic.

NOTE: Our brain has a built-in negativity bias -- this makes good sense from an evolutionary biology perspective.
Key Points

- Cognitive distortions are common, normal and not our fault
  - driven by a combination of nature and nurture
  - we each have our go-to signature distortions
  - when we are stressed, burned-out or otherwise unwell, our distortions are magnified and amplified

- When we engage with others, we need to remember that distortions and distorted thinking are swirling around us
  - our own distortions, some hidden and some that we share
  - their distortions, some hidden and some they share
Cognitive Distortion Examples

- **All-or-nothing thinking**: Our performance is either perfect or it is a complete failure; something is either all good or all bad.

- **Catastrophizing**: We exaggerate the implications of a set-back or mistake.

- **Mind Reading//Fortune Telling**: We make assumptions about what someone else is thinking or we predict the outcome of an event before it happens.

- **Emotional Reasoning**: We assume our emotions are a true reflection of the way things are.

- **Over-generalization**: We reach a conclusion about one event and apply it to all similar events.

- **Personalization**: We think the problem is ourselves rather than considering other outside factors that caused it or contributed to it. Can also be exclusively blaming someone else, rather than looking at other factors.

- **Discounting the Positive // Minimizing**: We discount positive outcomes and attributes by insisting “they don’t count” (the distortion underlying imposter fears).
Distorted Thinking Can Be Driven By External Factors

- External factors can confirm and amplify our stories and make it heard to reach out for support
  - toxic and bullying work environments
  - absent or difficult mentoring relationships
  - bias – conscious and unconscious

OR…..

- External factor can also soften our stories and make it easier to reach out for support
  - supportive mentors (research and non-research)
  - affinity groups
  - Resilient Scientist Series discussion groups
Imposter Fears

NOTE THE LANGUAGE!
What Is Fear?

- An unpleasant emotion caused by the belief that someone or something is dangerous, likely to cause pain, or a threat. (Webster Dictionary)

- The universal trigger for fear is threat of harm -- real or imagined.

- Fear can move us toward taking beneficial action in our lives.

Imposter Fears

The fear of being seen as not good enough, not intelligent enough, not capable enough or not creative enough…. despite evidence of high achievement

- Stems from the cognitive distortion of minimizing
- Imposter fears lead us to feel that we don’t belong… and we need to feel that we belong to take risks, to learn and to grow
More on Imposter Fears

- Elements of imposter fears
  - feeling like a fake
  - attributing success to luck
  - discounting your successes
  - assuming you had to work hard and that the equivalent accomplishment was easy for everyone else
  - fearing that you will be found out and unmasked as the fraud you are

- Often a result of:
  - fear of failure
  - perfectionist tendencies
  - the tendency to compare ourselves to others

http://paulineroseclance.com/
Causes of Imposter Fears

- Being a student
- Being in an environment that feels foreign to you
- Messages from family and childhood
- Organizational culture and messaging
- Stereotype threat (the stress of ‘representing’ your entire social group)
- Working in a creative field

NOTE: 70+% people report experiencing imposter fears at some point in their educational and work journey. SO... there is NOTHING wrong with you and you are not alone.
You Are in (Really) Good Company
Consequences of Our Distorted Stories

- At times it can feel like
  - jackal-like distortions motivate us to work hard leading to positive outcomes
  - ostrich-like distortions decrease our stress and buffer us from difficult feelings, making

- However, when unchecked and unquestioned (or when they are inappropriately dumped on us by others), they can hold us back, add to our struggle, and lead to many types of self-sabotaging behavior
How Might We Self-Sabotage

- We avoid..
  - asking questions we really need to ask or talking with people we really need to talk with
  - applying for appropriate schools, positions, fellowships and awards
  - volunteering for assignments and for leadership positions

- And….  
  - withdraw from community
  - use unhealthy behaviors to try and feel better
  - over-work or avoid work, both in really unhelpful ways

- This can be become a negative cycle that leads to poor outcomes in school, internship, work and life
The First Step Is To Explore Our Stories

- Use journaling for self-reflection and discovery
  - ask yourself what you currently believe and if those beliefs are helpful or hurtful?
- Keep a jackal - giraffe - ostrich log for a few days
- Talk about cognitive distortions and imposter fears with family, friends, colleagues, mentors
- Come to the Resilient Scientist discussion groups next week (at NIH or on your campus)
- Really getting in the way? Find a therapist and spend time exploring your distorted thinking and learning skills for disputing them
The ABC....D’s

ACTIVATING EVENT → BELIEFS → CONSEQUENCES

DISPUTE THEM

the stories we tell ourselves

https://positivepsychology.com/albert-ellis-abc-model-rebt-cbt/
How Distorted Thinking Holds Us Back

**Thoughts:** I can’t believe I did so poorly on that exam. I will probably do poorly on my other exams, and my GPA will be ruined. I am so dumb and will never get into grad school.

**Behavior:** Difficulty concentrating, skipping study group, ignoring office hours, watching TV instead of studying.

**Feel:** Panicked, stressed, worried, embarrassed, angry, overwhelmed, distracted, sad, resigned.
Thought: I can’t believe I did so poorly on that exam. This was just a fluke. I am a good student. This was just a bad day. And this professor sure grades unfairly. No worries, I got this!

Behavior: ignore exploring any needed changes, continue with study habits that may not be working.

Feel: confident or overly confident, relaxed, calm, unworried.
Instead – Aim For This

**Thought:** My performance was disappointing. I studied hard and thought I would do better. Maybe the prof is a difficult grader and not the best teacher. Still, it would be wise to rethink how I am studying. I need to regroup and consider changing my strategy.

**Behavior:** go talk to the teacher, re-evaluate study strategies, reach out for support, make a more realistic study schedule, deal with your frustration thru exercise

**Feel:** hopeful, focused, motivated, worried, stressed, embarrassed, disappointed.
Dealing With Distorted Thoughts

- When you hear them -- take a deep mindful breath, pause and stretch
- Acknowledge them and remember
  - jackal, giraffe or ostrich?
  - your inner scientist (fact check!)
    - what is the evidence that…,
    - how likely is it that……,
    - is there another hypothesis?
    - "is there a more realistic way to think about this?"
    - "can I find my growth mindset?"
- Find inspiration…… from an affirmation, a phrase, an image that makes you feel calm and capable
  - first person and second person affirmations
  - first person and third person visualizations
An Acronym To Help - HATS

Hear your [negative] self-talk

Appreciate you have a choice and fact check it

Talk back like a realistic giraffe

Seek help and access resources
The Art of Reframing

Hearing that jackal voice? Feeling frustrated? Disappointment sucking all of your energy? what might be helpful now?

Another chance to be comfortable with being uncomfortable. New learning experiences often come with some discomfort. Breathe………

At least 70% of all people feel like an imposter sometimes. This is a common part of the postdoc experience. I am (you are) not alone.

Of course a part of me feels like an imposter; NIH is an intense place. Time to reach out and regroup.
What About When They Come From Others?

- Workplace culture, discrimination, bias and poor mentoring often triggers cycles of distorted thinking and imposter fears.

- HATS still hold
  - Hear the jackal (or identify the ostrich) for what it is
  - Appreciate you have a choice to listen, or not, AND to talk to the other person, or not
  - Talk back - even if only to yourself
  - Seek resources and community

- Setting boundaries, being assertive, dealing with feedback, being a part of supportive communities and finding/working with mentors are all a part of the process.
And Talking About Hats....
A Difficult Interplay

- Distorted negative thoughts....
- Unhelpful behaviors
- Uncomfortable Feelings like frustration, panic, worry, embarrassment, anger, overwhelm, helplessness, sadness, resignation, shame.

Emotional regulation
Emotional Regulation

- Our goal is **Awareness, Accurate Interpretation, and Regulation (AIR)**
- Especially relevant for difficult emotions like:
  - Anxiety
  - discomfort
  - frustration
  - disappointment
  - anger
  - disconnect (imposter fears)
- With the overall goal of making good decisions – based on all of the data (both cognitive and emotional)
When It Comes to Our Feelings, Our Goal is

- Recognize them
- Acknowledge them
- Breathe deeply
- Be with them (don’t suppress or judge them)
- Interpret them accurately
- Take action (or not)
- Seek support and guidance when needed

NOTE: this is the equivalent of HATS for distorted self-talk
Being With Discomfort

- The ability to...
  - accept uncomfortable feelings while persisting in a task that is important to you
  - put aside unhelpful thoughts and emotions that are blocking important actions

- Some key places this matter to you in your education
  - talking to your PI or others about your progress/experience in the program
  - dealing with the vulnerability needed to ask for help, join (study) groups, and use resources
  - accepting difficult outcomes and talking about them
  - Hearing difficult, but accurate feedback, and engaging with others to address it
Being With Discomfort (II)

- Cultivate self-awareness and mindfulness
  - What does discomfort feel like in your body?
- Learn to pause and engage cognitive processes to make appropriate decisions
- Learn to use reframing strategies, imagery, mantras, etc
- Journal for growth at a later time
- Practice in low stress situations
- Be open to additional support
Take Home Message

Discomfort is not a stop signal – it is a pause and consider signal

This applies to other uncomfortable emotions as well (and for that matter comfortable ones)
Shame: A Difficult Feeling That Can Short Circuit Our Growth

N=334
Shame

- “An intensely painful feeling or experience of believing we are flawed and therefore unworthy of acceptance and belonging.”
- Experienced by everyone and creates feelings of fear and disconnection.
- Shame is about who we are and associated with the stories we tell ourselves about ourselves in very unhelpful ways.

Shame In Educational and Research Environments

- Our culture drives shame around
  - needing help
  - the things that come hard to us
  - needing breaks and time away
  - choosing the career that excite us
  - struggles we have with our PIs

- What did I miss?
Shame Resilience

- The ability to connect with your authentic self, to stop hiding and to have self-compassion
- To develop shame resilience, we need to learn to
  - recognize shame
  - understand the context
  - find community
  - take good care and use positive coping strategies
  - practice self-compassion
  - talk about it with people we trust

Find A Way In

thoughts

behaviors

feelings
The New Student and the Terrible, Horrible, No Good, Very Bad Day
Today – day two in Win’s lab and just a few weeks into my first year of grad school – was the worst day ever. Nothing went right. I am just sooooo stupid and I got confused making up solutions. I always knew I was not good in math. I thought I calculated a 1 mM stock, but it was really 1M. So....I added way too much catalyst into my gel solution. The minute I squirted the catalyst into the solution, it heated up -- like crazy. First the solution in the beaker bubbled over and then the tubing started expanding. And then it popped as the gel polymerized - way too quickly. Almost immediately – there was sticky polymerized gel in the breaker, in the tube, flying in the air, landing in my hair, everywhere but between the gel plates. There was even gel sitting on the top of my PI’s shiny bald head. I could tell that he was REALLY mad at me. I know he wishes I never joined his lab. Everything is TOTALLY ruined. Everyone else knows how to do this; why don’t I? I know everyone is laughing at me now and wondering why they accepted me as a graduate student. I totally blew my chance to stay in Win’s lab and nobody else will let me work in their lab once they hear about this, so now what am I going to do? I am disappointing everyone and am not cut out for graduate school. I should go home now.
So....

- Reflect on my story for a few moments....
  - what distortions do you see?
  - How would you coach me if I came to you for support?
And….a Journaling Prompt

- Now turn to yourself. What distortions drive the stories you tell yourself – at school and at home? Are you most often a jackal, or a giraffe or an ostrich? Why do you think that is, and what shifts would you like to explore for yourself? What will you do moving forward to shift your unhelpful self-talk and to learn to recognize and be with uncomfortable emotions?
Join Me……

OITE COMMUNITY WELLNESS EVENT: SCIENCE IMPROV
Oct 18, 2021 4:00 pm - 5:00 pm EST
https://nih.zoomgov.com/j/16182379760
Please take a moment now to give me feedback so I can learn from all of you.... [https://www.training.nih.gov/sas/_20/2201](https://www.training.nih.gov/sas/_20/2201)

This should take less than 5 minutes. It is voluntary and completely anonymous.