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to the Classroom

Performance Anxiety & Coping Mechanisms

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Performance Anxiety & Coping Mechanisms

Students evaluate real scientific data to learn about performance anxiety and how to reframe it using healthy coping mechanisms to manage its symptoms.

Suggested duration

- 1 x 45-75 min class period

Essential question

- How can awareness of anxiety impact performance?

Objectives

All students will...

- Participate in classwide discussion using specific language to talk about anxiety.
- Develop working definitions of anxiety and coping mechanism.
- Identify pros and cons of anxiety.
- Connect the ways that anxiety can be harmful or beneficial and that coping mechanisms can affect anxiety.

Advanced students will...

- Read published scientific research on anxiety
- Support ideas with data from published research

Materials

- Projector
- Computer with internet access

- Large chart paper and markers
- Slidedeck
- Celebrity Scenarios sheet
- For teacher background or for advanced students:
Science Daily article "Helping anxious students excel on science exams"
<https://www.sciencedaily.com/releases/2019/01/190115121122.htm>

Based on


The Stavros Niarchos Brain Insight Lecture

- "Performing Our Best When the Pressure Is On"
By Sian Beilock, Ph.D.
<https://www.youtube.com/watch?v=tM3zbpY-fMQ>



Instructional Activities

1. Opening: What do you know about anxiety? | ⌚ 10min

 Show slides 1-5

This Opening Activity uses the Celebrity Scenarios sheet to get students thinking about anxiety and how it can present. Students will work in groups of 4 in which each student evaluates different celebrity scenarios. Alternatiely, younger students may find it beneficial to work on the same scenario in their group.

- Hand students 8 slips of paper, each with the name of a celebrity who suffers from performance anxiety. Select celebrities from the Celebrity Scenarios sheet that accompanies this lesson plan or use a source such as [Wikipedia](https://en.wikipedia.org/wiki/Performance_anxiety) to make sure your selections are valid.
- Ask students to think about the following question: What do you know about performance anxiety?
- Students will respond to the following prompts for each celebrity scenario:
 1. Identify the different symptoms of anxeity. What do you think it feels like when someone is experiencing performance anxiety?
 2. In what situations does it occur for people who experience it?
 3. Think about how you would define "anxiety."

2. Defining Anxiety | ⌚ 5-10min

 Show slide 6

Students remain in their groups of 4 for this activity. By the end of this section, each group should have a working definition of "anxiety."

- Give each group large chart paper and markers.
- Instruct students to come up with a working definition of "anxiety."


- Have each group go around and share their working definition.
- Share an official definition of anxiety. From the American Psychological Association:
"Anxiety is an emotion characterized by feelings of tensions, worried thoughts, or physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness, or a rapid heartbeat."

Source: <https://www.apa.org/topics/anxiety>

Note: you could use the Frayer model for this section.

3. Managing Anxiety with Coping Mechanisms | ⌚ 15-20min

 Show slides 7-16

 Watch segment of "Performing Our Best When the Pressure Is On" by Dr. Sian Beilock
<https://www.youtube.com/watch?v=tM3zbpY-fMQ>

Students will relate the definition and symptoms of anxiety to their own experiences. Based on data from Dr. Beilock's lecture, they will define "coping mechanism" and discuss how reframing anxiety can be beneficial.

- Poll the students (e.g. using Poll Everywhere or Mentimeter):
 1. Have you ever felt the physical symptoms of anxiety?
 2. What were they? (consider creating a wordcloud)
 3. How do you deal with these physical symptoms?

Before showing the first portion of Dr. Beilock's lecture, set up the material by describing that Dr. Beilock's team studied what happens in the brain when people experience anxiety when faced with math problems. Her team used fMRI (functional



magnetic resonance imaging) to explore this.

Note: for additional teacher background, read this *Science Daily* article "[Helping anxious students excel on science exams](https://www.sciencedaily.com/releases/2016/05/160516084000.htm)"

- Show 21:40 - 25:55 of Dr. Beilock's lecture <https://youtu.be/tM3zbpY-fMQ?t=1300>
- Connect content to the physical symptoms of anxiety


Show the second portion of Dr. Beilock's talk where she addresses healthy coping mechanisms for reappraising anxiety to quiet down an anxious brain.

- Show 29:40 - 35:30 of Dr. Beilock's lecture <https://youtu.be/tM3zbpY-fMQ?t=1780>

Note: advanced students can read the *Science Daily* article and analyze the graphs shown 35:00 in Dr. Beilock's lecture.

- Develop a definition for one of the following terms: "coping mechanism," "coping strategy," "emotional regulation," "rejection sensitivity," or "arousal reappraisal"
- Consider the importance of precise descriptions and word choice to describe anxiety and coping mechanisms. What kinds of words do scientists use?
- Come up with ways to reframe anxiety as beneficial. Consider healthy coping mechanisms to address symptoms of anxiety. Connect to examples from celebrities or the teacher themselves and destigmatize mental health problems in teenagers.

4. Class Discussion | ⌚ 20-30min

 Show slides 17-25

This discussion is in the format of a structured Socratic seminar.

Background

- Students should have already watched video clips

and/or completed background reading from earlier in this class

Writing

- Give students a few minutes to write and consolidate information in preparation for the Seminar

Round 1: yes/no question

- Does everyone experience anxiety?

Round 2: one word

- When you hear stories about people experiencing anxiety or stress what's one other word that you think about?

Round 3: one-three sentences

- Why did you choose that word?

Round 4: guiding question 1

- What are some of the downsides of symptoms of anxiety?

Round 5: guiding question 2

- What are some ways to reframe symptoms of anxiety in a positive way?

Round 6: open discussion

- How do various coping mechanisms change the individual's response to anxiety?
- Did you experience anxiety during this discussion?
- What did it feel like?
- Did you use any approach to reduce your anxiety?



5. Closing | ⌚ 10min

 *Show slide 26*

Assessment: students can answer the essential question in a variety of ways:

- Write an exit ticket on an index card
- Share out loud
- Follow the teacher's usual closing routine
- Create a campaign/PSA that talks about how coping mechanisms could benefit students in their school (e.g. video, hallway posters, school w



Standards

<p><u>NEXT GENERATION SCIENCE STANDARDS (NGSS)</u></p>	<p>General lesson:</p> <p>NGSS Practices:</p> <ul style="list-style-type: none"> Constructing Explanations Engaging in Argument from Evidence <p>NGSS Cross Cutting Concept:</p> <ul style="list-style-type: none"> Cause & Effect <p>NGSS Content Specific:</p> <ul style="list-style-type: none"> 3-LS2-1 Ecosystems: Interactions, Energy, and Dynamics. Construct an argument that some animals form groups that help members survive. 3-LS3-2 Heredity: Inheritance and Variation of Traits. Use evidence to support the explanation that traits can be influenced by the environment. HS-LS1-2 From Molecules to Organisms: Structures and Processes. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. <p>Lesson with homeostasis extension:</p> <p>NGSS Content Specific:</p> <ul style="list-style-type: none"> HS-LS1-3 From Molecules to Organisms: Structures and Processes. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.
<p><u>CONTENT SPECIFIC CURRICULUM STANDARDS</u></p>	<p>General lesson:</p> <ul style="list-style-type: none"> 1.2c The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actionsAdvanced students (with homeostasis extension):



Standards

<p><u>CONTENT SPECIFIC CURRICULUM STANDARDS</u></p>	<p>Lesson with homeostasis extension:</p> <ul style="list-style-type: none"> 1.2j Receptor molecules play an important role in the interactions between cells. Two primary agents of cellular communication are hormones and chemicals produced by nerve cells. If nerve or hormone signals are blocked, cellular communication is disrupted and the organism's stability is affected. 3.1a Interpretation of data leads to development of additional hypotheses, the formulation of generalizations, or explanations of natural phenomena.
<p><u>COMMON CORE STANDARDS</u></p>	<p>General lesson:</p> <ul style="list-style-type: none"> CCSS.ELA-LITERACY.RST.9-10.2: Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. <p>Lesson with homeostasis extension:</p> <ul style="list-style-type: none"> CCSS.ELA-LITERACY.RST.11-12.7: Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
<p><u>SOCIAL EMOTIONAL LEARNING BENCHMARKS (NY STATE)</u></p>	<p>General lesson:</p> <ul style="list-style-type: none"> 1A.5c. Demonstrate the ability to adjust one's behavior in response to changes in one's environment or to changes in one's goal(s). 1B.5a. Implement a plan to build on a personal strength, meet a personal need, or address a personal challenge.



Vocabulary

Adaptive coping mechanism

Coping mechanism that involves healthy approaches, such as confronting problems directly, making reasonably realistic appraisals of problems, recognizing and changing unhealthy emotional reactions, and trying to prevent adverse effects on the body.

Anxiety

An emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat.

Arousal reappraisal

A coping technique in which individuals reinterpret their physiological stress response as a means to help improve performance.

Coping mechanism

Any conscious or nonconscious adjustment or adaptation that decreases tension and anxiety in a stressful experience or situation.

Coping strategy

An action, a series of actions, or a thought process used in meeting a stressful or unpleasant situation or in modifying one's reaction to such a situation. Coping strategies typically involve a conscious and direct approach to problems, in contrast to defense mechanisms.

Emotional regulation

Ability to exert control over one's own emotional state by rethinking a challenging situation to reduce anger or anxiety, hiding visible signs of sadness or fear, or focusing on reasons to feel happy or calm.

Expressive writing

A form of therapy in which individuals write about their thoughts and feelings related to a personally stressful or traumatic life experience.

fMRI

Functional magnetic resonance imaging - a brain imaging technique that measures the small changes associated with blood flow that occur with brain activity



Vocabulary

Maladaptive coping mechanism

Coping mechanism that involves unhealthy choices, such as using alcohol or drugs, to escape or avoid problems.

Performance anxiety

Apprehension and fear of the consequences of being unable to perform a task or of performing it at a level that will raise expectations of even better task achievement. Test anxiety is a common example of performance anxiety.

Rejection sensitivity

A trait characterized by feeling the sting of rejection much more acutely than others and also having an exaggerated fear of being rejected by those around them.



Sources

- The Stavros Niarchos Brain Insight Lecture, “Performing Our Best When the Pressure Is On” by Sian Beilock, Ph.D. <https://www.youtube.com/watch?v=tM3zbpY-fMQ>
- Science Daily article "Helping anxious students excel on science exams" <https://www.sciencedaily.com/releases/2019/01/190115121122.htm>
- Rozek et al. (2019) "Reducing socioeconomic disparities in the STEM pipeline through student emotion regulation." Proceedings of the National Academy of Sciences. <https://www.pnas.org/doi/10.1073/pnas.1808589116v>

Acknowledgements

Co-created by:	With input from:	Laura Klancer	Tamanna Shahid
Erik Shold	Andrew Anderson	Bonnie Lestz	Theresa Stanley
Brittany Klimowicz	Francesca DiPietro	Heather Lochridge	Meng-Ping Tu
<i>Edited by:</i>	Stephen Gallagher	Preeti Natarajan	Zora Tucker
Diana Li	Nicole Holmes	Suzette Nelson	Joshua Wickline
Maia Gumnit	Vincent Joralemon	Deborah Reich	
	Vanessa Keen	Bradley Scalise	

