The Effects of Adversity
Examining the Science of Risk and Resilience

Spring 2018
Monday and Wednesdays
5:05-6:20 PM

University of Vermont
VOTEY BLDG 105, College of Medicine

Instructor: Robert Althoff MD, PhD
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Course Description:
We will survey the science of adversity, risk, and resilience with a goal toward understanding the many areas of health and wellbeing affected by adversity. We will examine the underlying neuroscience and genomics of risk and resilience and how they are affected by adverse environments and how they are supported by wellness initiatives. To this end, we will being the semester discussing the response of the body to stress and the underlying neuroscience and genomics of risk. We will then explore specific aspects of risk including poverty, adverse family environments, and food insecurity. After break, we will explore resilience – the flip side of risk – and the neuroscience and genomics of how it is bolstered with music, art, exercise/sports, and relationships. The course has an experiential design—we will often be listening to stories of risk and resilience to highlight the messages presented in the readings and brief lectures. We will explore our own resiliency factors and work on bolstering them, and we will discuss the implications in our lives, the lives of those around us, and society.

Course Goals:

1. Gain fluency with the foundational concepts and vocabulary of adversity, risk, and resilience.

2. Develop facility in analyzing and interpreting articles from the scientific literature on adversity and its correlates as well as facility interpreting the media portrayal of risk and resilience.
3. Consider the challenges of operationalizing the principles of resilience to reduce the effects of adversity into everyday living at the individual, system, and population levels.

Course Objectives: (the numbers correspond with the Goals above)

1.a./2.a: Detail what constitutes adversity in different settings. Outline the outcomes often measured in the study of adversity, why they are chosen, what differential information they offer, and which are important to you.

1.b./2.b: Use knowledge gained and synthesized from research and observation to write cogently about concepts in adversity, referencing the evidence base, labeling phenomena with core terms, and integrating concepts from the literature with one's own ideas.

1.e./2.c: Evaluate the evidence for the validity and impact of key concepts in the field of adversity, such as risk, resilience, post traumatic stress, abuse, neglect, adverse childhood experiences, optimism, etc.

2.d: Depict the major components of a research article and its relevance, e.g., study format, randomization, placebo/controls, biases, power, generalizability, replicability, diversity and validity of measures, relevance of outcomes studied, correlation vs. causation.

2.e: Analyze commentaries in the media reflecting on adversity with regard to their accuracy, reliability, and biases.

2.f/3.a: Use your understanding of adversity and resilience to create cases of individuals with resilience and to interpret the key concepts that help them demonstrate their resilience.

3.b: Apply a growing knowledge of adversity and resilience to proposing creative, evidence-based, impactful solutions to local and global dilemmas.

Policies:

- How to contact us: Use your UVM e-mail account so we can reply (if needed) with confidential information about your work in the class. In most cases, you will get a reply within one business day.

- How we contact you: Most information will be posted on Blackboard. If we need to contact you individually, we will use your UVM e-mail address. Students are expected to manage their own e-mail accounts so that they can receive messages related to the course.

- Web-based resources: https://bb.uvm.edu/ This is your gateway to the resources for the course, including readings, videos, and other material. Most of your assignments will be posted and submitted here. You are expected to check it regularly.
**Classroom Environment Expectations:**

- Students are expected to attend every class, arriving promptly and remaining alert and involved until dismissed by the instructor.

- Faculty and students will promote academic discourse and the free exchange of ideas by listening with civil attention to all individuals.

- **Laptop computers and other web-enabled devices:** Cell phones cannot be used during class; laptops are not permitted. We want you to be engaged and participating. You may take notes on paper and all slides presented will be subsequently posted online for your review. Students observed to be using electronic devices during class time will lose their individual quiz points for the day.

- Absences: As above, attendance is **mandatory.** You are allowed to miss two classes with no point losses as long as you notify the TA and/or the professor in advance. No absences will be excused if we are notified after the missed class. After the second absence you will lose your individual quiz points for each subsequent absence. *(Unless you have a scheduled varsity or club athletic event, religious holiday, illness, or family crisis that is covered by UVM policy as appended below).*

**Required Texts:**

- All required readings will be posted on Blackboard. Optional films listed can be acquired on your own or through a library.

**Grading:**

- Daily Quizzes/Participation: (Total 20% of final grade)
  - A short closed-book quiz will be administered at the start of each class. It will cover the required reading(s) assigned for that session. Handing it in will result in Daily Quiz points (graded for completeness only). This will also serve as attendance and completion of this Daily Quiz will count for a total of 20% of your final grade, so it is important to be in class and participating. If there is no reading for the session (eg. Student Project presentations) the Daily Quiz will be a review question from previous material or a general survey question.

  **NB:** These Daily Quizzes are your participation grade for the course. If you do not hand in your individual quiz, you cannot earn these points. If you are not in class on time then you will miss the Daily Quiz point for that day. No make-ups will be offered and there is no way to keep track of who and who does not have their iClicker that day. So if you are going to miss a class please notify us in advance. Only two excused absences will be allowed for the Daily Quizzes. We reserve the right to take attendance at any time and this may be reflected in your Daily Quiz grade.

- Weekly Exercises: (Total 20% of final grade)
Starting Jan 24, on Wednesday evening by 11 PM, we will post a quiz on Blackboard which can be completed anytime between Thursday afternoon and Sunday evening at 11pm. These Weekly Quizzes are designed to structure your study of the course material and to thereby enhance your understanding and retention. Any given quiz is optional, but your best eight quiz grades will be averaged and will count toward 20% of your final grade. You are strongly advised to take ALL of the quizzes. Students in the past have regretted skipping quizzes early in the semester, thinking that they would make them up later. Taking the weekly quizzes is a good way to consolidate the material, helps you study for the final throughout the course, and gives me an ongoing picture of your performance in the course. This is important to allow me to assess your understanding of the material and to adjust as necessary.

- **Case Studies (Total 10% of final grade)**
  
  Lecture material will be enhanced with case studies of stories of adversity and resilience. For the beginning of the course, these will be written by Dr. Althoff to enhance discussion. By 11 PM on February 19, 2018, each student will be asked to turn into Blackboard a case study of their own which can be used as examples in the course going forward. These case studies can be examples from literature, politics, popular culture, or your own personal life. The idea of these case studies is to demonstrate the effects of adversity on development and either the negative consequences of that adversity, the resilience of the individual in the face of adversity, or both.

  Your case study should be no less than 2 paragraphs and no more than 1.5 pages. Please use 12-point font, double-spacing, and one-inch margins.

  The assignment is due by February 19 at 11:00PM on Blackboard; no late submissions will be accepted.

  The case study will be graded out of 9 points. The cases will be graded based on effort, thought, and connection to or question about the course material. The scoring rubric will be posted on Blackboard and will be discussed in class but will consist of 3 points for each of effort, thought, and connection to course material.

- **Student Presentation: (Total 30% of final grade)**
  
  At the end of the course, teams of students will be expected to present on a topic related to adversity, risk, and resilience. These will be 10-15 minute presentations. Powerpoint or use of other visual media is not required, but appropriate use of audiovisual material will be considered positively in the grade. Grading for the presentation will be based on 1) relevance of the topic; 2) quality of the presentation; 3) appropriate use of audiovisual materials; 4) response to questions. All students and faculty will grade the presentations of other students on a scale of 0-20. Students within each team will also rate their fellow students on a scale of 0-20, which will include 1) contributions; 2) problem solving; 3) attitude; and 4) focus on the task. Student evaluations will be worth 2/3 (1/3 within team and 1/3 outside of team) and faculty evaluation worth 1/3 of this grade.
Scoring rubrics will be placed on Blackboard and will be discussed in class.

- **Final Exam:** (Total 20% of final grade)
  - At the end of the course you will have a cumulative exam. The exam will consist of multiple choice questions and short answer questions. **At least 50% of the multiple choice questions will be taken from the Weekly quizzes**, again emphasizing the importance of taking the Weekly quizzes. This final will be taken individually on laptops.

- **Grades**
  - A+ > 99%
  - A = 92 to 98.9%
  - A- = 90 to 91.9%
  - B+ = 87 to 89.9%
  - B = 82 to 86.9%
  - B- = 80 to 81.9%
  - C+ = 77 to 79.9%
  - C = 72 to 76.9%
  - C- = 70 to 71.9%
  - D+ = 67 to 69.9%
  - D = 62 to 66.9%
  - D- = 60 to 61.9%
  - F < 60%

**For further policy information, see the end of this Syllabus.**

N.B. The readings in the week-by-week schedule listed below are posted on the course site. You are expected to have completed only the required readings prior to the class date for which they are assigned. The optional readings are also on the course site should you be interested in further material on a topic. Links are provided for the video clips. Movies are always optional and can be found through various services.

**Section 1: Introductory**

**January 17th:** Introduction I – Class Introduction. Orientation to the syllabus. Explanation of projects and quizzes.

*Required Materials:* None

*Optional Materials:* None

**January 22nd:** Introduction II: Defining and measuring adversity and related concepts.

*Required Materials:*
• The Adverse Childhood Experiences Study – The Largest Most Important Public Health Study You Never Heard of Began in an Obesity Clinic (https://acestoohigh.com/2012/10/03/the-adverse-childhood-experiences-study-the-largest-most-important-public-health-study-you-never-heard-of-began-in-an-obesity-clinic/)

• Take the ACE quiz (http://www.npr.org/sections/health-shots/2015/03/02/387007941/take-the-ace-quiz-and-learn-what-it-does-and-doesnt-mean)

Optional Materials:
• Nadine Burke Harris on ACEs (An excerpt of this will be shown in class) (https://www.ted.com/talks/nadine_burke_harris_how_childhood_trauma_affects_health_across_a_lifetime)

January 24th: Psychological theories of adversity and overcoming it

*Weekly Quiz #1 will be open today on Blackboard and due on Sunday night, January 28th by 11PM*

Required Materials:


Optional Materials:

• Dan Gilbert: The surprising science of happiness (An excerpt of this will be shown in class) (https://www.ted.com/talks/dan_gilbert_asks_why_are_we_happy#t-184340)

January 28th: 11PM. Weekly Quiz #1 Due

January 29th: A review of nervous system development and stress responsiveness

Required Materials:


Optional Materials:


• Stress and the Brain: Jaime Tartar at TEDxNSU
  (https://www.youtube.com/watch?v=XQeDYBS63IY)

**January 31st**: Introduction to genomics and epigenomics
*Weekly Quiz #2 will be open today on Blackboard and due on Sunday night, February 4th by 11PM*

**Required Materials:**

  (https://publications.nigms.nih.gov/thegenetics/thenewgenetics.pdf)

**Optional Materials:**

- Epigenetics and the influence of our genes: Courtney Griffins at TEDxOU
  (https://www.youtube.com/watch?v=JTBg6hqeuTg)

**February 4th: 11PM, Weekly Quiz #2 Due**

**Section 2: Adversity and Development**

**February 5th**: The role of chronic stress in the developing brain
*Teams will be assigned during class today and time will be given for brief meetings as a team.*

**Required Materials:**


**Optional Materials:**


**February 7th**: Intergenerational transmission of adversity
*Weekly Quiz #3 will be open today on Blackboard and due on Sunday night, February 11th by 11PM*

**Required Materials:**


**Optional Materials:**
• Epigenetics and the influence of our genes. Courtney Griffins. TEDxOU
  (https://www.youtube.com/watch?v=JTBg6hqeuTg)

**February 11th: 11PM. Weekly Quiz #3 Due**

**February 12th:** The effects of adversity on the genome/epigenome

**Required Materials:**


**February 14th:** Family factors that promote resilience

*Weekly Quiz #4 will be open today on Blackboard and due on Sunday night, February 18th by 11PM*

**Required Materials:**


**Optional Materials:**

Movie: The Pursuit of Happyness

**February 18th: 11PM. Weekly Quiz #4 Due**

**February 19th:** NO CLASS, PRESIDENT’S DAY

*Case study uploaded to Blackboard by 11 pm tonight.*

**February 21st:** Poverty lab – Kerry O’Loughlin

*Weekly Quiz #5 will be open today on Blackboard and due on Sunday night, February 25th by 11PM*

• No readings

**Section 3: Poverty and Related Topics**

**February 25th: 11PM. Weekly Quiz #5 Due**

**February 26th:** The politics of poverty
Required Materials:


Optional Materials:

- The good news on poverty (Yes, there’s good news). Bono. TED2013

February 28th: The effects of poverty on health

Weekly Quiz #6 will be open today on Blackboard and due on Sunday night, March 4th by 11PM

Required Materials:


Optional Materials:


March 4th: 11PM. Weekly Quiz #6 Due

March 5th: The effects of adversity on parenting and vice versa

Required Materials:


Optional Materials:

- Parenting at a Challenging Time: A Dozen Lessons Learned (http://www.mghpact.org/for-parents/a-dozen-lessons-learned)
March 7th: Food security and insecurity and health – Merelise Ametti

*Weekly Quiz #7 will be open today on Blackboard and due on Sunday night, March 19th by 11PM*

**Required Materials:**


**Optional Materials:**

- Obesity + hunger = 1 global food issue. Ellen Gustafson. TEDxEast
- Movie: A Place at the Table
- The surprisingly dramatic role of nutrition in mental health. Julia Rucklidge. TEDxChristchurch

March 12th and 14th: SPRING BREAK

March 19th: 11PM. Weekly Quiz #7 Due

**Section 4: Effects of Adversity in Adulthood**

March 19th: Effects of ACEs on cardiac and metabolic health

*Time will be given today for meeting as Teams for working on presentations.*

**Required Materials:**


**Optional Materials:**


March 21st: Team Presentation Work

*Weekly Quiz #8 will be open today on Blackboard and due on Sunday night, March 25th by 11PM*
This session is for work as teams on presentations to complete proposals for the following week.

**March 25th: 11PM. Weekly Quiz #8 Due**

**March 26th:** Effects of stress and adversity on the immune system

*Proposals for Student Team Presentations due in class today.*

**Required Materials:**


**Optional Materials:**


**Section 5: Resilience**

**March 28th:** The neuroscience of resilience

*Weekly Quiz #9 will be open today on Blackboard and due on Sunday night, April 1st by 11PM*

**Required Materials:**


**Optional Materials:**

- Bergland C. Deconstructing the Neurobiology of Resilience.

**April 1st: 11PM. Weekly Quiz #9 Due**

**April 2nd:** The genomics of resilience – Kerry O'Loughlin

**Required Materials:**


**Optional Materials:**
• How to make stress your friend. Kelly McGonigal. TED.

**April 4th:** Supporting resilience through music
*Weekly Quiz #10 will be open today on Blackboard and due on Sunday night, April 8th by 11PM*

**Required Materials:**


**Optional Materials:**

• How Music Saved Venezuela’s Children. BBC Imagine. 11-18-08. (https://www.youtube.com/watch?v=43tqQhOTCgQ)

**April 8th: 11PM. Weekly Quiz #10 Due**

**April 9th:** Supporting resilience through art and drama

**Required Materials:**


**Optional Materials:**

• Empowering kids in Camden through dance (https://www.youtube.com/watch?v=xptB32psR7Y)
• Movie: Mr. Holland’s Opus

**April 11th:** Supporting resilience through sports
Weekly Quiz #11 will be open today on Blackboard and due on Sunday night, April 15th by 11PM

Required Materials:


Optional Materials:

- The real importance of sports. Sean Adams. TEDxACU
- Movie: Rocky

April 15th: 11PM. Weekly Quiz #11 Due

April 16th: Supporting resilience through intimate relationships

Required Materials:


Optional Materials:

- Movie: Life is Beautiful

April 18th: Making a difference – Suzanne

Weekly Quiz #12 will be open today on Blackboard and due on Sunday night, April 22nd by 11PM

Required Materials:

- 10 Solutions to Fight Economic Inequality. Talk Poverty. 6-10-15.

Optional Materials:

- How to change the world: John Paul Flintoff at TEDxAthens 2012

April 22nd: 11PM. Weekly Quiz #12 Due
Section 6: Student Projects

April 23rd: Student Projects #1 (Groups 1, 2, 3)

April 25th: No Class – Study for finals.

April 30th: Student Projects #2 (Groups 4 and 6)

May 2nd: Finals Review

May 7th (19:30-22:15): FINAL EXAM, Votey 105

Student Presentations:

Teams will be assigned on February 5th.

Each team of students will be assigned a date to do a very short (5-7 minute) presentation on a scientific study of your choosing related to the course material. The topic must be chosen in advance and approved by the professor. The project proposal submission form is posted on Blackboard. There will be time to work on projects as teams in class. The proposals for final student presentations are due by 11 pm on March 26th. If you are uncertain about the quality of the topic, write to the TA or professor well ahead of time to get approval or else you will not earn full credit.

Your charge with the presentation is to creatively convey the science of the topic and how it applies to everyday life. Creative formats including activities, quizzes, poetry, theater, dance, music, videos, and other art forms are welcome.

Grading Rubric for Student Presentations:

- 4 points for group participation
- 4 points for relevance of the topic: reviewing the science of the topic and its relation to the course.
- 4 points for quality of the presentation, including clarity
- 4 points for appropriate use of audiovisual materials, including creativity and originality in delivering the presentation
- 4 points for responses to questions

Grading Rubric for Team Participation in Presentations:

- 4 points for contributions
- 4 points for problem solving
- 4 points for attitude
- 4 points for focus on the task
- 4 points for working with others
All students and faculty will grade the presentations of other students on a scale of 0-20 based on this rubric. Student evaluations will be worth 2/3 (1/3 within the group and 1/3 outside of the group) and faculty evaluation worth 1/3 of this grade. Keep in mind that, based on this rubric, the few people assigned to your group will have a great deal of influence on your individual grade for this presentation. It is to your advantage to work well with the group.

More Policies:

- **Student Learning Accommodations:** In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact ACCESS, the office of Disability Services on campus. ACCESS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations via an accommodation letter to faculty with approved accommodations as early as possible each semester. All students are strongly encouraged to meet with their faculty to discuss the accommodations they plan to use in each course.

  Contact ACCESS: A170 Living/Learning Center; 802-656-7753; access@uvm.edu; www.uvm.edu/access

- **UVM’s policy on disability certification and student support:**
  www.uvm.edu/~uvmppg/ppg/student/disability.pdf

- **Religious Holidays:** Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to make up work within a mutually agreed-upon time.

- **Academic Integrity:** The policy addresses plagiarism, fabrication, collusion, and cheating. http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf

- **Grade Appeals:** If you would like to contest a grade, please follow the procedures outlined in this policy:
  http://www.uvm.edu/~uvmppg/ppg/student/gradeappeals.pdf

- **Grading:** For information on grading and GPA calculation, go to www.uvm.edu/academics/catalogue and click on Policies for an A-Z listing.

- **Code of Student Rights and Responsibilities:**
  www.uvm.edu/~uvmppg/ppg/student/studentcode.pdf
- **FERPA Rights Disclosure:** The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974.  

- **Promoting Health & Safety:** The University of Vermont's number one priority is to support a healthy and safe community:

  - **Center for Health and Wellbeing** [http://www.uvm.edu/~chwb/](http://www.uvm.edu/~chwb/)

  - **Counseling & Psychiatry Services (CAPS)** Phone: (802) 656-3340  
    **C.A.R.E.** If you are concerned about a UVM community member or are concerned about a specific event, we encourage you to contact the Dean of Students Office (802-656-3380). If you would like to remain anonymous, you can report your concerns online by visiting the Dean of Students website at [http://www.uvm.edu/~dos/](http://www.uvm.edu/~dos/)

- **Final exam policy:** The University final exam policy outlines expectations during final exams and explains timing and process of examination period.  

### IMPORTANT DEADLINES

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<td>Weekly Quiz #1 due on Blackboard</td>
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<td>Weekly Quiz #8 due on Blackboard</td>
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<td>Wednesday, 3/26, in class</td>
<td>Student/Team presentation proposals due in class</td>
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