



NEUROSCIENCE 1045 | SUMMER 2018
INSTRUCTOR: JENNIFER WILLFORD, PHD

brain development and early life stress

The emphasis of this class is to study the impact of major early life stress on brain development. We will focus our learning on very young children who experience war, are refugees forced from their home country and/or separated from their parents. During the first half of the course, we will build a foundation of knowledge of the phases of brain development including the HPA axis, fear and threat responses, and cognition. During the second half of the course, we will study abroad in London to learn from international experts in the field, visit an early childhood brain development research center, and learn about course topics in current and historical contexts. This course format is ideal for undergraduates who are interested in development and neuroscience.

how to
reach
me

EMAIL

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CALL OR TEXT

412-780-2974

CLASSROOM

CL-0249

BLACKBOARD

Discussion Board - What's up docs?

WHAT WILL YOU LEARN? COURSE OBJECTIVES

- Describe the key phases of brain development.
- Describe and assess the strengths and limitations of neuroscience methods and research designs available to study brain development in humans.
- Integrate an understanding of stress and the brain across multiple domains including the biopsychosocial model of stress, HPA axis, epigenetics, nutrition, and immune function.
- Describe the brain structure, function, and neurochemistry associated with threat detection and regulation of the fear response.
- Describe potential biological mechanisms that underlie changes in brain structure and function associated with early life stress.
- Describe the role of important caregiving relationships and sensitive periods in determining risk and resilience for brain development.
- Describe the consequences of early life stress including risk for mental disorders, quality of life, and physical health issues.
- Identify the associations between science and public policy and their impact on the young child.
- Relate the concepts learned in the class to the experience of infants and young children who experience toxic stress, including children in the war and refugee context.

THE DAY THE WAR CAME BY NICOLA DAVIES



THE DAY WAR CAME THERE WERE FLOWERS ON THE WINDOW SILL
AND MY FATHER SANG MY BABY BROTHER BACK TO SLEEP.
MY MOTHER MADE MY BREAKFAST, KISSED MY NOSE
AND WALKED WITH ME TO SCHOOL.

THAT MORNING I LEARNED ABOUT VOLCANOES, I SANG A SONG ABOUT HOW TADPOLES TURN AT LAST
TO FROGS.

I MADE A PICTURE OF MYSELF WITH WINGS.

THEN, JUST AFTER LUNCH, WHILE I WATCHED A CLOUD SHAPED LIKE A DOLPHIN, WAR CAME.

AT FIRST, JUST LIKE A SPATTERING OF HAIL
A VOICE OF THUNDER...

THEN ALL SMOKE AND FIRE AND NOISE, THAT I DIDN'T UNDERSTAND.

IT CAME ACROSS THE PLAYGROUND.

IT CAME INTO MY TEACHER'S FACE.

IT BROUGHT THE ROOF DOWN.

AND TURNED MY TOWN TO RUBBLE.

I CAN'T SAY THE WORDS THAT TELL YOU
ABOUT THE BLACKENED HOLE THAT HAD BEEN MY HOME.

ALL I CAN SAY IS THIS:

WAR TOOK EVERYTHING

WAR TOOK EVERYONE

I WAS RAGGED, BLOODY, ALL ALONE.

I RAN. RODE ON THE BACK OF TRUCKS, IN BUSES;
WALKED OVER FIELDS AND ROADS AND MOUNTAINS,
IN THE COLD AND MUD AND RAIN;
ON A BOAT THAT LEAKED AND ALMOST SANK
AND UP A BEACH WHERE BABIES LAY FACE DOWN IN THE SAND.

I RAN UNTIL I COULDN'T RUN
UNTIL I REACHED A ROW OF HUTS
AND FOUND A CORNER WITH A DIRTY BLANKET
AND A DOOR THAT RATTLED IN THE WIND

HOW WILL YOU BE GRADED?

ASSESSMENT

- Students will be graded in a variety of ways in this course. Each of the assessment methods is described below:
- **Concept Focused Papers** (1-3 pages, 10 points each): The goal of concept focused papers is to provide students with an opportunity to reflect on course reading and discussion. Content of concept focused papers may include questions and/or ideas about an individual article/book chapter being read in class, on a pair of articles that contrast or discuss a topic from different perspectives, how the information has helped them identify an important new theme in the course or on complementary areas of research. Students will be provided with instructions and a grading rubric on the first day of class.
- **Discussion and Participation** (100 points): Students are expected to come to class fully prepared, having completed readings and assignments. Full engagement in the process of learning is expected. Students will be assessed based on 1) how well they interact with others, 2) whether or not their participation adds value to the discussion, 3) whether or not they are prepared for class, 4) their willingness to engage, problem solve, and be responsible for their learning, 5) their organization and ability to manage multiple tasks, and 6) their attitude and motivation toward class experiences, discussions, and content.
- **Reading Quizzes, Reflections, and In-Class Assignments** (10 points each): Students will be given reading quizzes at the beginning of each on-campus meeting. The material for the quizzes will be derived from the assigned readings. A variety of in-class activities, reflection, and homework assignments will also be assigned
- **Attendance:** There is a zero tolerance attendance policy for this course. You must attend class and all scheduled events both in- and out-of-country. Each day that you miss will drop your grade by one letter. After three misses, the global studies office will be contacted and your dismissal from the program will be recommended.

BUT WAR HAD FOLLOWED ME.
IT WAS UNDERNEATH MY SKIN,
BEHIND MY EYES,
AND IN MY DREAMS.
IT HAD TAKEN POSSESSION OF MY HEART.

I WALKED AND WALKED TO TRY AND DRIVE WAR OUT OF MYSELF,
TO TRY AND FIND A PLACE IT HADN'T REACHED.
BUT WAR WAS IN THE WAY THAT DOORS SHUT WHEN I CAME DOWN THE STREET
IT WAS IN THE WAY THE PEOPLE DIDN'T SMILE, AND TURNED AWAY.

I CAME TO A SCHOOL.
I LOOKED IN THROUGH THE WINDOW.
THEY WERE LEARNING ALL ABOUT VOLCANOES
AND DRAWING BIRDS AND SINGING.

I WENT INSIDE.
MY FEET STEPS ECHOED IN THE HALL
I PUSHED THE DOOR AND FACES TURNED TOWARDS ME
BUT THE TEACHER DIDN'T SMILE.
SHE SAID, THERE IS NO ROOM FOR YOU,
YOU SEE, THERE IS NO CHAIR FOR YOU TO SIT ON,
YOU HAVE TO GO AWAY.

AND THEN I UNDERSTOOD THAT WAR HAD GOT HERE TOO.

I TURNED AROUND AND WENT BACK TO THE HUT, THE CORNER AND THE BLANKET
AND CRAWLED INSIDE.
IT SEEMED THAT WAR HAD TAKEN ALL THE WORLD AND ALL THE PEOPLE IN IT.

THE DOOR BANGED.
I THOUGHT IT WAS THE WIND.
BUT A CHILD'S VOICE SPOKE
"I BROUGHT YOU THIS," SHE SAID "SO YOU CAN COME TO SCHOOL."
IT WAS A CHAIR. A CHAIR FOR ME TO SIT ON AND LEARN ABOUT VOLCANOES, FROGS AND SINGING
AND DRIVE THE WAR OUT OF MY HEART.

SHE SMILED AND SAID "MY FRIENDS HAVE BROUGHT THEIRS TOO, SO ALL THE CHILDREN HERE CAN
COME TO SCHOOL"

OUT OF EVERY HUT A CHILD CAME AND WE WALKED TOGETHER,
ON A ROAD ALL LINED WITH CHAIRS.
PUSHING BACK THE WAR WITH EVERY STEP.

REFUGEE

A refugee is a person who has been forced to leave their country of nationality to escape war, persecution, natural disaster, or other terror. Refugees have no choice, they are forced to flee in fear of their lives - leaving their homes, friends, family and everything they hold dear

WHAT DO YOU NEED? COURSE MATERIALS

This course is heavily supported by Blackboard. All reading materials, videos, course calendar, and discussion boards are provided.

THE STUFF I HAVE TO SAY COURSE POLICIES



IF YOU HAVE A DISABILITY - Most important! Talk with me on the first day of class about your accommodations!!

Disability Resource Services Statement: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-3347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

DON'T CHEAT - All students are expected to adhere to the standards of academic honesty. Any student engaged in cheating, plagiarism, or other acts of academic dishonesty, would be subject to disciplinary action. Any student suspected of violating this obligation at any time during the semester will be required to participate in the procedural process, initiated at the instructor level as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to the confiscation of the examination of any individual suspected of violating the University Policy.

EMAIL - E-mail Communication Policy Statement: Each student is issued a University e-mail address (username@pitt.edu) upon admittance. This e-mail address may be used by the University for official communication with students. Students are expected to read e-mail sent to this account on a regular basis. Failure to read and react to University communications in a timely manner does not absolve the student from knowing and complying with the content of the communications. The University provides an e-mail forwarding service that allows students to read their e-mail via other service providers (e.g., Hotmail, Gmail, Yahoo). Students that choose to forward their e-mail from their pitt.edu address to another address do so at their own risk. If e-mail is lost as a result of forwarding, it does not absolve the student from responding to official communications sent to their University e-mail address. To forward e-mail sent to your University account, go to <http://accounts.pitt.edu>, log into your account, click on Edit Forwarding Addresses, and follow the instructions on the page. Be sure to log out of your account when you have finished. (For the full E-mail Communication Policy, go to www.bs.pitt.edu/policies/policy/09-10-01.html.)

COURSE SCHEDULE - PITTSBURGH

Monday
06.04.18

Time: 9-12pm
Location: CL-0249
Topic: Course Introduction

Tuesday
06.05.18

Time: 9-12pm/Asynchronous
Location: CL-0249/Online
Topic: Cultural Sensitivity Training & Refugee Panel

Wednesday
06.06.18

Time: 9-12pm
Location: CL-0249
Topic: Neuroplasticity & Epigenetics

Thursday
06.07.18

Time: Asynchronous
Location: Online
Topic: Early Life Stress, HPA Axis, Health and the Brain

Friday
06.08.18

Time: 9-12pm
Location: CL-0249
Topic: Traumatic Stress and the Developing Brain

Weekend
06.09-10.18

Time: Asynchronous
Location: Online
Topic: Cognition and Memory Brain Systems in Trauma and Coping in the Young Child
Visit: Casa San Jose, TBD

Monday
06.07.18

Time: 9-12pm
Location: CL-0249
Topic: Early Childhood Stress and Learning

Tuesday
06.08.18

Time: Asynchronous
Location: Online
Topic: Development of the fear response and threat detection

Wednesday
06.09-10.18

Time: 9-12pm
Location: CL-0249
Topic: Neurobiology of Resilience/Translational Neuroscience: Practice and Policy

Thursday
06.07.18

READING
DAY

Friday
06.08.18

Time: 9-12pm
Location: CL-0249
Final Exam and Preparations for London

Weekend
06.09-10.18

SEE YOU
IN LONDON!

DRAFT

GLOBAL LEARNING

What is global learning? Global learning is "a critical analysis of and an engagement with complex, interdependent global systems and legacies (including historical, cultural, political and social) and their implications for people's lives (AACU Shared Futures). This course examines the impact of war on children - a topic with relevance to psychology, neuroscience, health, culture, and policy and can be studied in current and historical context. You will learn applied skills as well as the underlying theory and scientific evidence for how we approach this global problem. After building our foundation in Pittsburgh, we will move as a class to London.

The **global learning goals** of this class are 1) Building global self-awareness through an understanding of the inter-relationships among your self, local, and global communities, 2) Develop cultural sensitivity and perspective taking, 3) Develop your ability to recognize your responsibility as an educated and privileged person to society both personally and professionally,

You might be wondering **why we are studying in London**. There are more child refugees in Europe than at any point since the end of the second world war. The increased numbers reflect the ongoing crisis in Syria, but also new or reignited conflicts in Burundi, Iraq, Libya, Niger, and Nigeria and older unresolved conflicts in Afghanistan, the Democratic Republic of the Congo, the Central African Republic, South Sudan, Ukraine and Yemen, among others. As children flee from war and disaster, borders across Europe are closing and making their journeys even more dangerous and difficult. The international portion of our trip allows us to access a number of international resources including training at the UK Refugee Council, Play for Progress, Anna Freud Centre, the Birkbeck Lab - a lab that focuses on developmental neuroscience research, as well as experts and scientists who are working at the forefront of the refugee crisis.

Experiences in London

Neuroscience

Child Development Lab at Birkbeck

Guest Speaker:
Vanessa Putz

s/fMRI Investigation of the impact of early adversity on emotion and factors that promote resilience.

Psychology

Workshop-Anna Freud Child Development Centre

Understanding of Mentalisation in the Experience of Trauma in Childhood

Context

Guided Tour of the Foundling Museum

Play for Progress - Refugee Week Activities

Meeting with the UK Refugee Council

Guest Speaker:
Vanessa Pupavic

The International Politics of Trauma and Western Therapy Culture

Culture

Afternoon Tea

HOHO Tour

Tower of London

Stonehenge/Bath

Westminster Abbey

Harry Potter Studios