

University of Northern Iowa

UNI ScholarWorks

CSBS INSPIRE Student Research & Engagement Conference 2020 INSPIRE Student Research & Engagement Showcase

Apr 17th, 12:00 PM - 4:00 PM

The Role of Cognitive Neuropsychology in Emergency Medicine

Nia McClendon

University of Northern Iowa

Copyright ©2020 Nia McClendon

Follow this and additional works at: <https://scholarworks.uni.edu/csbsresearchconf>



Part of the [Psychology Commons](#)

Let us know how access to this document benefits you

Recommended Citation

McClendon, Nia, "The Role of Cognitive Neuropsychology in Emergency Medicine" (2020). *CSBS INSPIRE Student Research & Engagement Conference*. 70.

<https://scholarworks.uni.edu/csbsresearchconf/2020/all/70>

This Open Access Poster Presentation is brought to you for free and open access by the Conferences/Events at UNI ScholarWorks. It has been accepted for inclusion in CSBS INSPIRE Student Research & Engagement Conference by an authorized administrator of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

The Role of Cognitive Neuropsychology in Emergency

Department Doctors

Nia McClendon, Psychology Major

Department of Psychology - University of Northern Iowa, Cedar Falls



Introduction

Position:

- Emergency Department Scribe at MercyOne Medical Center, Waterloo IA

Job Description:

- As a scribe, I see patients alongside the emergency department (ED) doctor and assisted with the transcription of patient charts, including but not limited to:
 - patient's history
 - physical exams
 - consultations with other providers
 - procedures
 - medications
 - imaging reports
 - the final decision to disposition (discharge), admit or transfer the patient.

Overview:

- Hours Worked: 27-36 hours a week (9 hour shifts at \$10/hr)
- Training: Two month-long process including classroom training, exams, and shadowing the chief scribe during 5 shifts. Quarterly continuing education classes.



Schweer, R. (2018). Public Health [Online Photograph].

MercyOne Medical Center

Who They Are:

MercyOne Medical Center is a hospital located in Waterloo Iowa. They make and spend their money on patient care.

Their Mission:

To serve with fidelity to the Gospel as a compassionate, healing ministry of Jesus Christ to transform the health of our communities.

Their Values:

Their values include integrity, commitment to the poor, compassion, excellence, justice, stewardship, and reverence.

Abstract

- Over the past year, I have worked as an Emergency Room Scribe. One of the most striking peculiarities I have noticed is that when the emergency room grows busier, the number of admittances rises as well. While it seemed to be a coincidence at first, after a review of the literature I have learned that it is a well-known phenomenon. Understanding physicians' decision-making involves aspects of medicine, neuroscience, and psychology, as well as an extensive understanding of how stress impacts the brain.

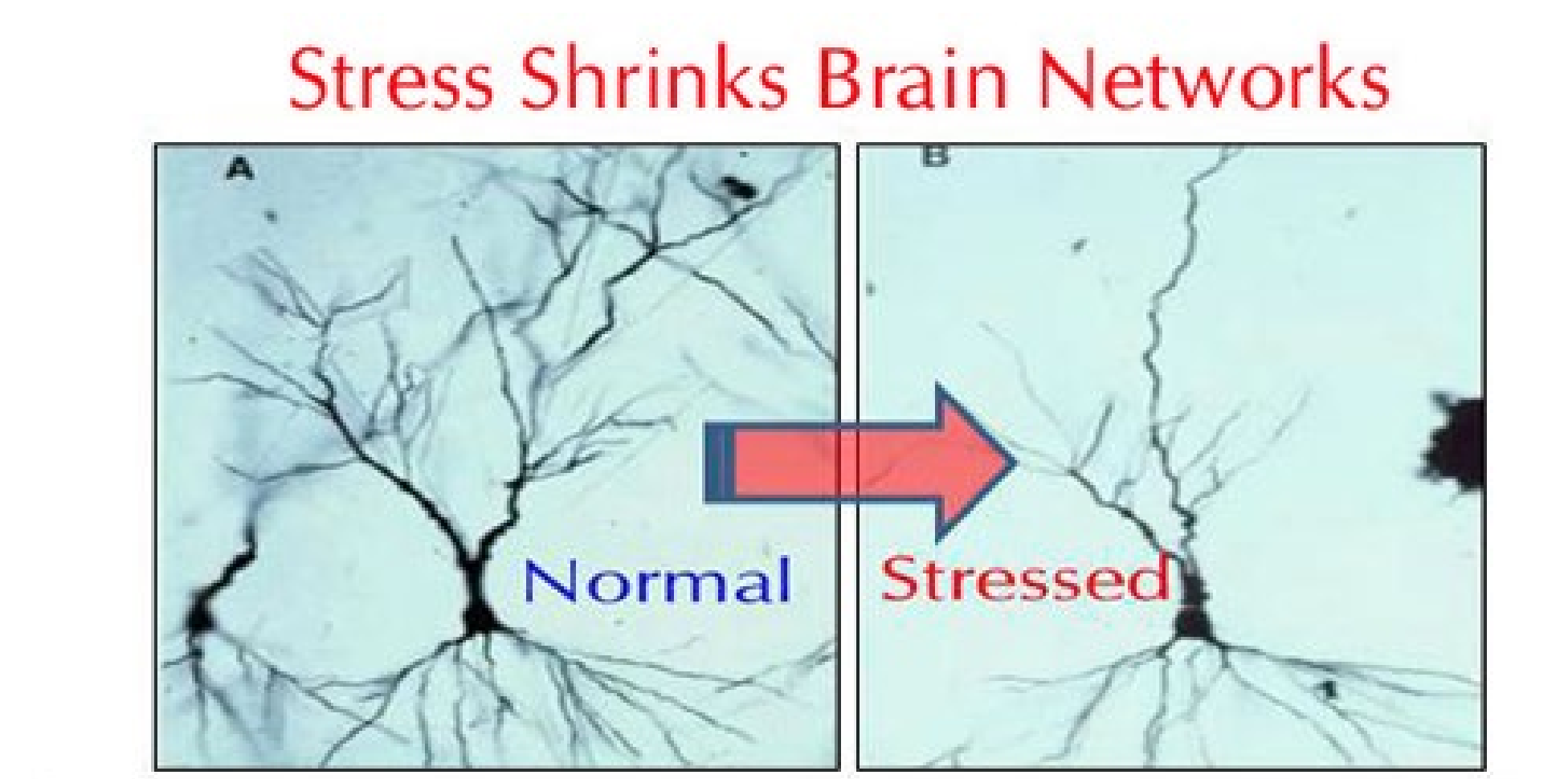
Cognitive Neuropsychology

Crowding

- The number of patients that get discharged from the ED appears to have a direct correlation with how many patients are in the waiting room.
- When there is a high number of patients to be seen, "most are admitted because it is the path of least resistance" (Pines, 2009).

Stress and the Brain

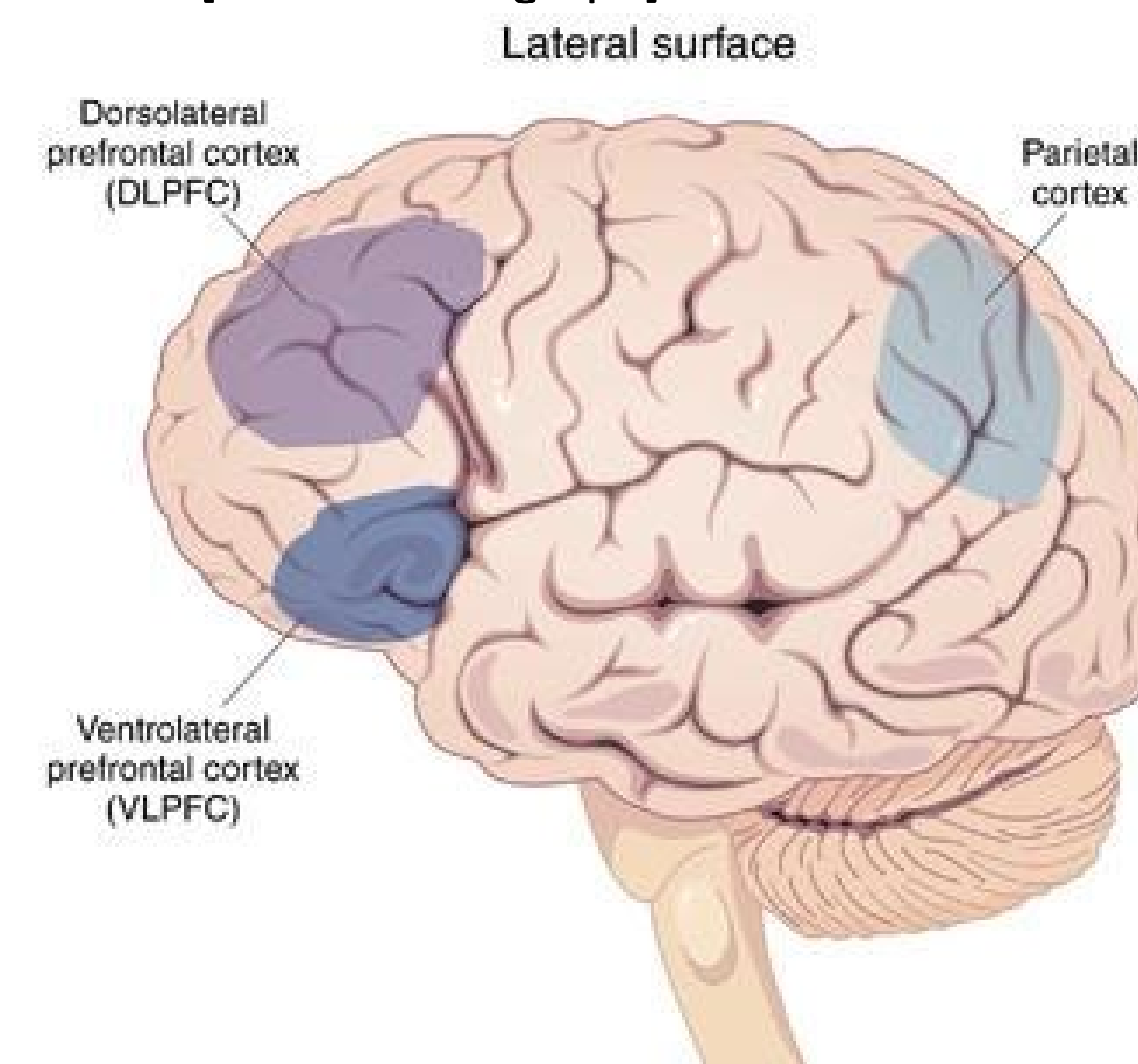
- "Stress occurs when demand exceeds the regulatory capacity of an organism" (Pines, 2009).
- The brain reacts to stress in the following ways
 - Attention span narrows
 - External distraction heightens
 - Working memory is hindered
- This negatively affects factors such as problem recognition, assessment and selection of plans, and information recall (Starcke & Brand, 2013).



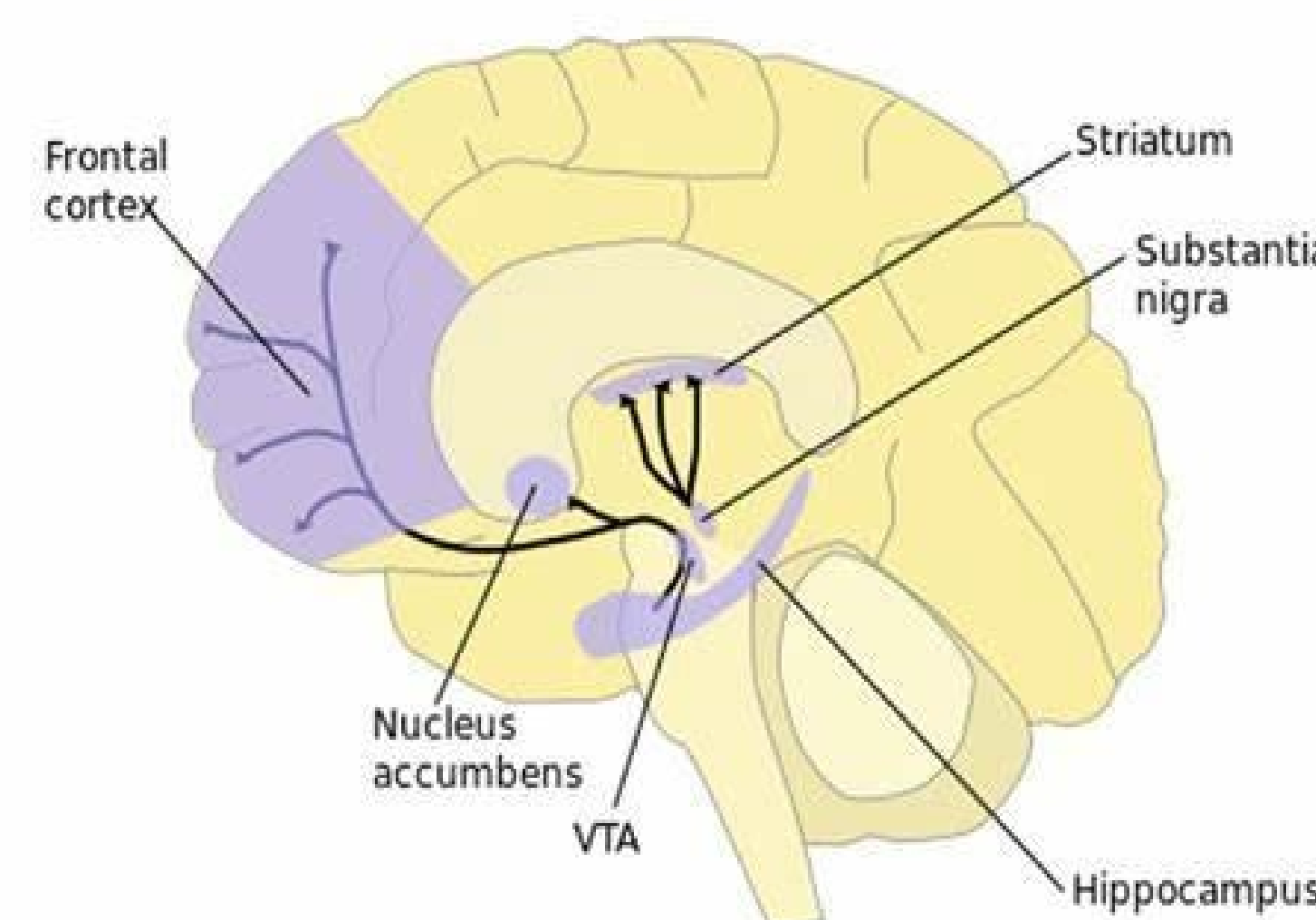
Smith, L. (2014). Stress and Neurons [Online Photograph].

Brain Mechanism

- The dorsolateral prefrontal cortex - critical for decision making (Starcke & Brand, 2013).
- When there is high levels of uncertainty, the stratum is critical (Starcke & Brand, 2013).
 - Feedback Processing
 - Reward/consequences



Robertson, E. (2018). The Prefrontal Cortex & Decision Making [Online Photograph].



Kelly, J. (2010). Know Your Brain: The Stratum [Online Photograph].

Cognitive Psychology

- ED physicians may "anchor" based on a patient's initial complaint (Starcke & Brand, 2013).
 - Rely on early information and ignore anything following.
- Cognitive load
 - Amount of stress that an ED doctor can hold at one time (Starcke & Brand, 2013).
- Doctors may subconsciously admit patients when its busy because it is the easiest path for the brain (Gorski et al., 2017).

Research, Results, and Discussion

Research

- Study was conducted at a level one trauma center over 6 months. All factors were controlled.
- of the 72, 245 patients that were seen, 49487 were eligible for the study.

Results

- A baseline of 35% of patients will be admitted to the hospital (Gorski et al., 2017).
- In this study, 37% of the 49,487 or 18,310 were admitted when the emergency department was remarkably busy (Pines, 2009).

Discussion

- The patients that run the risk of deterioration and require further testing can either be admitted or discharged with close outpatient follow up.
- Doctors may not have time to explain outpatient follow up instructions if it is busy in the emergency room.
- Admission saves time and ensures safe follow up.

Career Aspirations

I aspire to obtain a PhD in neuroscience and ultimately consult on neurosurgeries. This job is an invaluable gateway into what my career entails.



Johnson, G. (2018). Introduction to Neuroscience [Online Photograph].

Neuroscience is a harmonious combination of medicine and psychology making my aforementioned job, as well as this assignment, remarkably enlightening for my future occupation.

Advice for Future Interns

This job has helped me to recognize that psychology can be ubiquitous. Concerning any prospective interns, it is crucial to note that one does not need to be in a psychological discipline in order to acquire knowledge about psychology; working in the emergency department has informed me about how people act in the most despondent of circumstances.

Acknowledgments

I would like to thank my boss, Gatlin Meador for allowing me to do this project at work. Additionally, I would like to thank Carolyn Hildebrandt for her assistance and support during this process.

References

- Gorski, J.K., Batt R.J., & Otles, E. (2017) The Impact of Emergency Department Census on the Decision to Admit. *Academic Emergency Medicine*, 24, 12–20.
- Pines, J.M., Pollack, C.V., Diercks, D.B., Chang, A.M., Shofer, F.S., & Hollander, J.E. (2009). The Association Between Emergency Department Crowding and Adverse Cardiovascular Outcomes in Patients with Chest Pain. *Academic Emergency Medicine*, 16, 617– 625.
- Starcke, K. & Brand, M. (2013). Decision Making Under Stress: A Selective Review. *Neuroscience Biobehavioral Review*, 36, 1228-1248