CONCEPT AND PROTOTYPING STATEMENT

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Thesis 1
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Abstract

My thesis research focuses on how the use of narrative medicine in medical education can be a potential prevention strategy for misdiagnosis later in a medical professional's career, using toxic stress as a content area for application. I plan to make a resource for medical professionals in training that emphasizes the importance of a patient's narrative and the context in order to serve as a reminder to look beyond literature like the DSM-5 when trying to understand a patient's issues. The end goal of my thesis is to improve the chances for correct care for those suffering from toxic stress by providing medical caretakers with a resource that aims to deepen perspective and create a space for more reflective diagnosis practice. In order to have a chance for recovery, a patient must be diagnosed properly. My project aims to increase those chances.

Critical Issues

In a very brief nutshell, the critical issue of my thesis project is the fact that there is a gap in medical education for complex issues like toxic stress which occurs **"**when a child experiences strong, frequent, and/or prolonged adversity—such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship—without adequate adult support. This kind of prolonged activation of the stress response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and

cognitive impairment, well into the adult years." [1] The gap in medical education occurs from a combination of a lack of resources and time. I first spoke with Dr. Blake Phillips from Bellevue Hospital's Partial Hospitalization Program and he highlighted that using traumatized patients as a teaching tool carries ethical risks, so other resources like medical actors may be used to learn about complex syndromes like toxic stress.[2] I then reached out to Sam Wilkes, an instructor of clinical medical education at University of Southern California, who noted that medical actors are rarely used for acting out situations with toxic stress due to the difficulty of acting and nature of the short term interaction.[3] I then followed up with second year medical student Doug Zoerner who is also an esteemed curriculum committee member at the University of Kentucky School of Medicine. I learned that many people turn to memorization during a psych unit in medical school, which is where they might encounter discussions of toxic stress.[4]

This gap in education could potentially lead medical professionals to misdiagnose toxic stress for attention deficit disorder.[5] While both disorders have very similar behavioral manifestations, the treatment for them could be entirely different. If both issues have the nearly the same symptoms and there's a gap in the provider's medical education and lack of experience with complicated issues like toxic stress, there's the possibility that the diagnosis will not consider all possibilities. A child truly suffering attention deficit disorder might benefit from treatment using a

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[1] Center on the Developing Child, "Toxic Stress."

[2] Phillips, Interview with Dr. Blake Phillips.

[3] Wilkes, Interview with Sam Wilkes.

[4] Ali-Khan, Interview with Safi Ali-Khan.
Zoerner, Interview with Doug Zoerner.

[5] Ruiz, "How Childhood Trauma Could Be Mistaken for ADHD."

prescription. While on the other hand, the child suffering from toxic stress might require a totally different treatment, such as therapy or an intervention with child protective services. The potential response that I'm exploring through my thesis prototypes is to employ narrative education techniques, which focus less on a list of diagnosable symptoms and more on understanding the context and narrative of a patient. According to Rita Charon, the director of the Narrative Medicine program at Columbia University, if the medical professional knows how to read into contextual clues and understand a patient's narrative, they'll be more equipped to diagnose and treat a patient better.[6]

Core Issues

While researching and trying to prototype and keep all constraints and variables in mind, I quickly came to understand how convoluted, varied, and sometimes impenetrable the medical education system is. My initial assumption was that medical education was fairly standardized, so I could expect the same protocols across the board for training, education, and resources implemented. After continuously contacting my community of practice, which is a combination of students, doctors, and educators in different programs and hospitals, I realized that everyone gave me slightly varied information. For example, Doug Zoerner's psych rotation at the University of Kentucky will be based on lectures and memorizing the DSM-5 while Safi Ali-Khan's experience at New York University will be combined with a neuroscience unit and be

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6 "Models, Practices, Opportunities, and Challenges for Mutual Integration of the Arts, Humanities, and Medicine."

partially spent in a clinical setting.[7] What makes this a core issue in the prototyping process is that my designed solution will have to bridge multiple educational experiences and I will need to user test in more than one institutional setting. This means that I'll need to continue to develop a robust community of practice who can give me feedback from multiple perspectives.

On the same note, another core issue to be addressed is the several areas of entry that my prototype could focus on. My prototypes could be targeted towards general medical education, but they could also be used in residencies or fellowships further down the line in one's education. If my approach was to target earlier in the chain of medical education, I could shift my prototypes to fit in the pre-medicine undergraduate track.

The driving question behind the decision of entry is at what point should an educator engage students in a discussion about context and narrative? If it is later down the chain of education, is this discussion important for all medical professionals to engage in? I would argue that narrative medicine has more than just one application in clinical settings, but for the sake of my thesis, I'm just going to focus on toxic stress.

While the answer is still in development, it will inevitably impact the form of my approach because the scale of each entry point varies dramatically. My current prototype is a physical installation that consists of a projection through a series of panels based off the ecological model, an "approach [which] focuses on both population-level and individual-level determinants of

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[7] Ali-Khan, Interview with Safi Ali-Khan.
Zoerner, Interview with Doug Zoerner.

health and interventions."[8] While the prototype, see left, might communicate the importance of narrative and context, the scalability of this as a resource could be limited. The scale of the point of entry chosen could determine the prototype's success.

The remaining core issue I will need to address through prototyping is the success of each iteration. After interacting with my designed intervention, are students or professionals more likely to think about context and narrative? Did it impact the way they treat their patients? If this is a resource, I need to be able to validate and prove with data or some sort of testimonial that my resource works and is a viable option. This feedback will not only help me validate my final iteration, but it will help influence iterations during development.

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8 "Ecological Model," American College Health Association, n.d., https://www.acha.org/HealthyCampus/Implement/Ecological_Model/HealthyCampus/Ecological_Model.aspx?hkey=f5defc87-662e-4373-8402-baf78d569c78.

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