Proposing a Trauma-Informed Curriculum Framework for Basic Science in Medical Education – A Comprehensive Exploration

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Abstract
This study addresses the impact of psychological trauma on medical students and investigates interventions to support academic success. Observations at a Caribbean medical school revealed students facing trauma-related difficulties, prompting an inquiry into the inadequacies of current educational strategies and the need for trauma-informed medical education. The study hypothesizes that a dedicated and inclusive curriculum can empower students with traumatic experiences to excel in medical education. The overarching question probes the ways past trauma affects education, while secondary questions delve into defining psychological trauma, its impact on academic achievement, and strategies for trauma-informed learning environments. The literature review identifies gaps in curricular frameworks and outcome measurement, highlighting disparities in disease representation, the impact of cultural biases in medical education materials, and the importance of fostering self-regulation skills in students. The research employs an interdisciplinary approach, combining a systematic literature review with qualitative analysis through interviews with traumatized students. Six key findings emerge, emphasizing the significance of creating safe environments, informing educators about trauma, avoiding cultural biases in examinations, and developing self-regulation skills. The proposed Trauma-Informed Curriculum Framework aims to address gaps in medical education by integrating evidence-based interventions. Ethical considerations prioritize participant confidentiality and informed consent. The envisioned framework seeks to contribute globally to trauma-informed medical education, fostering inclusivity and support for students with psychological trauma histories. This research lays the foundation for a transformative curricular framework in medical education.

Keywords: Trauma-Informed, Trauma-Sensitive, Trauma-Aware, Medicine, Education, Implicit Bias, Unconscious Bias, Classroom, Classroom Strategies, Discrimination, Abuse, Trauma-Informed Care, Patient-Centered Care, Primary Care

Introduction

Since 2000, the researchers of this study taught pathology at a US medical school in the Caribbean. During this period, it has been observed that students often fail classes, depart from school, or exhibit "unprofessional" behavior due to personal or family concerns or trauma. As a professor and administrator, the researcher has learned that the difficulties are related to personal psychological trauma, such as childhood abuse, war memories, early pregnancies, diseases or racial prejudice, and the burden of caring for disabled family members or parents with chronic illnesses. At enrollment, these students often don't mention these past traumatic events or family issues. Unfortunately, the demanding curriculum of a medical school often reveals these students' hidden sensitivity and they become stressed. When dealing with these students, universities usually provide counseling, contact emergency medical services if appropriate, or suggest they withdraw from the program for further counseling before continuing. These approaches rarely solved their education challenges. As educators, we regularly encounter students facing academic challenges, but do we understand the reasons behind their struggles, particularly when linked to past adversities or post-traumatic stress syndrome, and are our interventions, infrastructure, and the recognition of these concerns by teachers and admins adequately addressing the diverse needs of these students, and how should we tailor our teaching approaches to effectively support them? These youngsters should not drop out of school despite what has occurred to them. These traumatic experiences have emotional, psychological, neurological, and bodily consequences (Gabor, 2021).

According to data, there is often at least one traumatized youngster in every classroom (K-12). Nearly 40% of American students have experienced some kind of traumatic stressor in their lives, with sexual assault, physical assault, and witnessing domestic violence being the three most common. This information is based on data from the National Child Traumatic Stress Network (Copeland et. al., 2007). Evidence implies that these past traumatic experiences have significant emotional, psychological, neurological, and physical ramifications (Gabor, 2021). While trauma-informed class policy exists and is being practiced in several K-12 schools, trauma-informed curriculum is essentially non-existent in higher education or professional institutions. According to the literature, trauma-informed medical education, or TIME (Brown et al., 2021; Chokshi et al., 2020; Ghazala, 2022; Thomas et al., 2019) is a relatively new educational strategy that focuses on teaching methods, school environments, and teacher training that promotes awareness of students and trainees who experience psychological trauma due to various determinants. The trauma-informed approach, or TIME, is driven by four tenets referred to as the "4 R's." Understanding trauma and how it can affect individuals and groups, recognizing the signs of trauma, having a system that can respond to trauma, and resisting re-traumatization are all components of trauma awareness. A modification of the trauma-informed medical education strategy offers a framework to address and mitigate these consequences and promote the safety and health of patients and medical students in clinical settings. Six principles guide trauma-informed care (TIC). TIC makes decisions that establish trust and provide mutual support to aid healing and rehabilitation. TIC seeks to eliminate power inequities and recognize everyone's participation in rehabilitation and care. TIC promotes recognizing and treating historical trauma, overt prejudice, and latent biases. Norah Sweetman (2022) examines the components of the term "trauma-informed classroom", another analogous approach that promotes a similar concept. This 'trauma-informed classroom' aims to help teachers understand their students' daily lives and recognize trauma-based emotions and behaviors. Classroom activities and teaching approaches can be changed to meet their requirements in conversation with students and via continual feedback. A team must support the teacher and acquire needed services. Therefore, educators advocate for establishing policies and practices that support

learners to prevent further re-traumatization of traumatic experiences (McClinton, 2020; Cohen et al., 2017). When viewed from a different perspective, psychological trauma is also a public health concern that could negatively impact society. The detrimental impacts of living in extreme poverty, neglect, abuse, and addiction on children and their families have been the subject of numerous studies, with prominent institutions reaching a consensus (Radford et al., 2013). Nadine Burke (Burke, 2014) examines the transition from categorizing problem issues as requiring a "social service" or "medical" response to recognizing the chronic levels of trauma experienced by highly neglected groups. Even though there are multiple nomenclatures for the trauma-informed educational approach, the fact remains that these approaches do not highlight specific essential components of this educational strategy. All these approaches do not elaborate on how to assess the academic needs of these students, what kind of pedagogy should be used, the requirements for the infrastructure, how to deliver specific training to teachers, and how the outcome of these interventions should be measured in non-clinical settings in medical education.

The primary hypothesis of the study postulates that individuals facing unfavorable psychological events may encounter disruptions in their pursuit of education, leading to potential discontinuation. It further suggests that these students, when provided with a dedicated and inclusive curriculum, have the potential for academic excellence. The overarching research question centers on understanding how past psychological trauma influences students' education and performance. Additionally, the inquiry seeks to identify effective strategies for addressing the impact of psychological trauma on education.

The secondary research questions are as follows:

Definition of "Psychological Trauma": This question aims to investigate and establish a clear definition of psychological trauma, providing a foundational understanding for the subsequent exploration of its effects on education.

Negative Effects of Psychological Trauma on Academic Achievement and Professionalism: This question delves into the exploration of how psychological trauma negatively affects students' academic achievement and professionalism, shedding light on the multifaceted impact of trauma on various aspects of a student's educational journey.

Development of Strategies for Trauma-Informed Learning Environments: The focus here is on identifying evidence-based strategies that can be implemented to create trauma-informed learning environments. This question addresses the proactive measures that can be taken to support students with psychological trauma in an educational setting.

Roles of Medical Educators and Academic Leaders: This question investigates the roles played by medical educators and academic leaders in the context of addressing the impact of psychological trauma on students. Understanding their roles is crucial for the effective implementation of strategies and the creation of supportive educational environments.

By addressing these research questions, the study aims to contribute valuable insights into the intricate relationship between psychological trauma and education, paving the way for the development of informed and targeted interventions within medical education settings.

Methodology

The researchers attempted to find answers to these research questions and finally to the aims of this study by conducting, a) An interdisciplinary systematic literature review and a follow-up and b) a qualitative investigation of the academic requirements perceived by students who reported having experienced such trauma in their lives. This second part of the research will be qualitative in nature and is scheduled for the next year.

Literature Search

A systematic literature review for the evidence of the definition of trauma was conducted. The review explored why a trauma-informed approach (Thomas et al., 2019) is necessary for medical education in the current geopolitical context. Key search terms were defined using the PICOS approach (Methley, et al., 2014) (Table 1).

Domain	Search term
P – Population (Descriptions of the group of the population of interest)	Medical students who reported experiences phycological trauma.
I – Intervention (What are the main interventions to consider?)	Available effective policies or guidelines on the trauma-informed education or care.
C – Comparison (Is there an alternative policy to compare)?	Comparison of existing protocols and policies across different educational systems, public health and general care system in various countries.
O – Outcomes measures	If these existing protocols and policies are effective in improving outcome of the students' academic performance or attitude toward self-care.
S - Study design	Any study design, excluding case studies and personal communications.

Table 1: Key search terms were defined using the PICOS approach.

Appropriate articles were collected after searching various databases that included Business Sources Complete (EBSCO), Medline/CINAHL-health topics, PsycInfo, ProQuest Cochrane Library, PubMed, Google Scholar, and Discover Aid. were searched with the keywords. Search results were imported into Mendeley Desktop software and duplicates will be removed. Titles and abstracts were assessed against the inclusion and exclusion criteria. Full texts of all eligible studies will be reviewed against the criteria, with reasons for exclusion reported. We searched for evidence specifically about trauma-informed school instructors, the definition of psychological trauma, established classroom policies, and materials relating to their skills, roles, or training. A flow chart of the search strategy is shown in Appendix A.b).

Conclusions

Key Findings

The study's Key findings underscore the significant impact of various diversities, encompassing historical, racial, and disease-related factors, on students' pursuit of academic and professional goals. Recognizing the multifaceted nature of these challenges, the following key recommendations emerge to address and overcome barriers within educational settings.

These recommendations not only aim to create an inclusive learning environment but also advocate for a holistic approach that considers students' psychological well-being, cultural awareness, and collaborative capacities. The six key findings and corresponding strategies are outlined below:

1. Creating a Safe School and Classroom Environment

Results of the literature review showed that a safe classroom environment is paramount for fostering optimal learning experiences. It serves as the bedrock for students' emotional well-being, creating a space where they feel secure, supported, and free to express themselves. In a safe setting, educators are attuned to signs of distress, allowing them to proactively connect with students facing challenges (Todd, 2021). By redirecting behavior through private discussions and offering reasonable choices, educators empower students to regain control in a supportive manner. Post-crisis, calm discussions about the incident help strengthen relationships, fostering understanding and trust. This comprehensive approach not only enhances academic performance but also cultivates a positive culture of learning, promoting holistic development beyond mere achievement.

In a classroom, fostering a positive and inclusive environment is crucial, and teachers should be mindful of their language to create a supportive atmosphere (Peterson, 2023). Here are some inappropriate words and phrases to be avoided:

i. Yelling or Overly Stern Voice: Using a loud or stern voice can trigger trauma responses and create a negative emotional impact on students.
ii. Triggering Language: Avoid using words that may trigger negative emotions or distress in students, as this can hinder their ability to engage and learn.
iii. Judgmental Phrases: Refrain from using judgmental phrases such as "Really?" "Are you sure?," or "Are you serious? " as they may make students feel invalidated or defensive.
iv. Negative Labels: Steer clear of using labels like manipulative, lazy, resistant, or unmotivated, as these can contribute to a negative perception and hinder positive behavior.
v. Time-Frame Accusations: Avoid making statements like "You've been acting like this for a while now," as it may not address the root cause and can be counterproductive.
vi. Disrespectful Labels: Refrain from labeling students as disrespectful or attention-seeking, as this can perpetuate negative stereotypes and hinder a supportive teacher-student relationship.

Promoting positive communication involves choosing words that uplift and encourage, fostering an environment where students feel respected, valued, and understood. Using constructive language helps create a conducive learning space where students are motivated and eager to engage in the educational process.

2. Inform Teachers About Psychological Trauma and How It Can Affect Students

Several educators inquire about identifying signs of trauma in students and understanding its manifestations in the classroom. It is crucial to acknowledge that trauma varies significantly from person to person, encompassing diverse experiences, emotional consequences, manifestations, and requirements for recovery (Garay *et al.*, 2022). Due to the inherent need for survival, when a student encounters a traumatic incident that poses a perceived threat to their existence, their brain, and body promptly and forcefully respond to prevent injury by

focusing their energies on self-preservation. This induces a condition of anxiety and stress in the student. Their brain exhibits hyper-focus on the danger, rendering it incapable of diverting attention to any other matter until the threat has subsided. Training programs should focus on identifying signs of trauma. The results showed that recognizing signs of trauma in the classroom includes observing extreme shyness, disproportionate reactions to setbacks, difficulty managing strong emotions, clinginess, challenges in transitioning between activities, forgetfulness, frequent complaints of feeling sick, difficulty focusing, lack of safety awareness, missed deadlines, poor academic performance, apathy, perfectionist tendencies, and physical or verbal aggression among students.

3. Avoid Cultural Stereotypes and Biases in the Examination Questions

Text of multiple-choice questions: The results showed that in most MCQs, there is no relevance to why race/ethnicity is used- particularly White/Caucasian. The result of my research shows that in most commercially available question banks (MCQ), descriptive mentions provide additional context but are not key to answering the question, while central mentions contain information crucial for answering the question. For example, in the cases (question texts) where the White/Caucasian patients are mentioned, 92.6% of these mentions are descriptive, offering supplementary information, while 7.4% are central, and directly relevant to the case's question. This distinction is consistent across racial/ethnic categories, emphasizing the importance of recognizing when race/ethnicity information is supplementary versus essential in medical cases. The combined dataset reflects the nuanced utilization of race/ethnicity information, where the majority of mentions are descriptive, contributing context but not integral to answering the posed questions. It is therefore important to address the imbalance in mentioning White/Caucasian populations, which make up about 90% of questions, which may contribute to normative biases and overlook the diverse demographic landscape of the United States.

The research reveals noteworthy trends in disease mentions across diverse racial/ethnic groups, highlighting disparities in disease representation. For White/Caucasian individuals, coronary artery disease (CAD), cystic fibrosis, and hypertension are the most common diseases mentioned in the question stem in MCQ banks. In contrast, African American individuals exhibit a higher prevalence of sickle cell disease, sarcoidosis, and G6PD deficiency, with hypertension as a notable mention. Asian individuals commonly face hypertension and inflammatory bowel disease, with gallstones as a notable mention. Hispanic individuals frequently encounter inflammatory bowel disease, and osteoporosis is a notable mention. Native American individuals are notable for osteoporosis and vasculitis. These statistics underscore the disparities in disease representation, with some diseases appearing more frequently in certain racial/ethnic groups. The challenge lies in avoiding the perpetuation of stereotypes and recognizing the multifactorial nature of disease prevalence. Incorporating this nuanced understanding into medical education is crucial for cultivating culturally competent healthcare professionals.

4. Avoiding Cultural Stereotypes and Biases in the Medical Textbooks

Medical textbooks: It has been shown that dermatology texts significantly overrepresent light skin tones and underrepresent dark skin tones (brown and black)- Appendix B. Even though advances in technology have lessened the difficulties associated with shooting people with dark skin tones, discrepancies still exist. According to a 2020 study, up to 18% of the photographs in dermatology textbooks feature people with dark skin tones, mirroring the percentages observed in 2006 (Bandyopadhyay, et. al., 2022; Kaundinya, 2021). Whites' focus and

definition of white as normal when describing skin conditions is the fundamental cause of the underrepresentation of people with brown and black skin. Dark skin tones are more commonly employed to depict STDs than common diagnoses like acne, making the stratification of skin tone portrayal based on disease more worrisome. We immediately associate a diagnosis with a one-dimensional presentation when the majority of diseases that students see are presented in one skin tone. This limits our capacity to identify the ailment in other skin tones or to include it in our differential diagnosis. Until this narrow-minded diagnostic vision is substantially remedied with culturally competent in-person education—a difficult process that is currently not accomplished by all resident training programs—it will follow us into the wards, throughout residency, and into clinical practice. Updating textbooks and materials to incorporate newer evidence and moving beyond cultural stereotypes and biases is crucial for fostering an inclusive learning experience. Diverse perspectives, contributions, and histories should be accurately represented in educational materials to help students develop a more nuanced understanding of different cultures, promoting empathy and reducing stereotypes.

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5. Developing Self-Regulation Skills in Students

The literature search revealed 6 key self-regulatory mechanisms:

i. Cue Identification: Recognize individualized cues signaling powerful emotions or reactions.
ii. Teaching students how an adolescent Brain Develops: Introducing young individuals to their physiological stress responses, commonly known as "fight, flight, freeze, or fawn," can prove highly beneficial. This knowledge empowers individuals to consciously intercept and evaluate their reactions by recognizing and understanding these innate responses. Once learners can identify their initial instinctual response, they gain the ability to compare it with a more deliberate and thoughtful reaction.
iii. Conscious Interception and Regulation: Encourage learners to compare innate responses with deliberate reactions. Facilitate rational thinking during intense emotional states. Contribute to the gradual development of improved emotional regulation (Grotan, et.al., 2019).
iv. Individualized Coping Strategies: Adopt diverse coping strategies tailored to unique responses to stressors. Consider preferences for activities like physical exercise, journaling, or meditation.
v. Timing of Coping Strategy Planning: Plan coping strategies during calm periods or specialized advisory sessions. Recognize challenges in self-reflection during heightened emotional states.
vi. Personalized Approach: Acknowledge diversity in coping mechanisms. Foster a supportive environment for developing and applying effective self-regulation strategies.

Integrating strategies to develop self-regulation skills in students is essential for their academic success. This includes teaching methods for managing stress, building resilience, and promoting emotional intelligence. Providing resources and activities that help students

recognize and regulate their emotions can contribute to a positive learning environment and better academic outcomes.

6. Promoting Collaboration and Student-Teacher Partnerships

Creating opportunities for collaboration and establishing student-peer-teacher partnerships can enhance the overall learning experience. This involves encouraging teamwork, group projects, and interactive learning activities. Such collaborative approaches foster a sense of community within the classroom, promote diverse perspectives, and provide additional support networks for students facing academic and personal challenges (Somers & Wheeler,2022: Sweetman 2022).

Implications

The implications of the study extend to educators, educational institutions, and policymakers in the field of medical education.

Curriculum Development

The proposed Trauma-Informed Curriculum Framework provides a foundation for restructuring medical education to accommodate students with traumatic experiences. Incorporating evidence-based interventions, creating safe environments, and avoiding biases in educational materials is crucial to fostering an inclusive and supportive learning environment.

Educator Training

Educator awareness and training programs should be implemented to equip teachers with the skills needed to identify signs of trauma, understand diverse responses, and create trauma-informed learning environments. Professional development initiatives can contribute to a more empathetic and supportive educational culture.

Diversity and Inclusion

Efforts should be made to address cultural biases in medical education materials, ensuring accurate representation of diverse perspectives. Incorporating diverse case studies and avoiding stereotypes in examination questions contribute to fostering cultural competence among medical students.

Student Support Services

Institutions should consider integrating self-regulation skills development programs into their support services. Providing resources and activities that help students recognize and regulate their emotions can contribute to a positive learning environment and better academic outcomes.

Limitations

Despite the valuable insights provided by the study, several limitations should be acknowledged:

Generalizability

The study's findings may have limitations in generalizability due to the focus on a specific Caribbean medical school. Variations in institutional culture, student demographics, and educational systems may affect the applicability of the proposed framework to other settings.

Evolution of Trauma-Informed Education

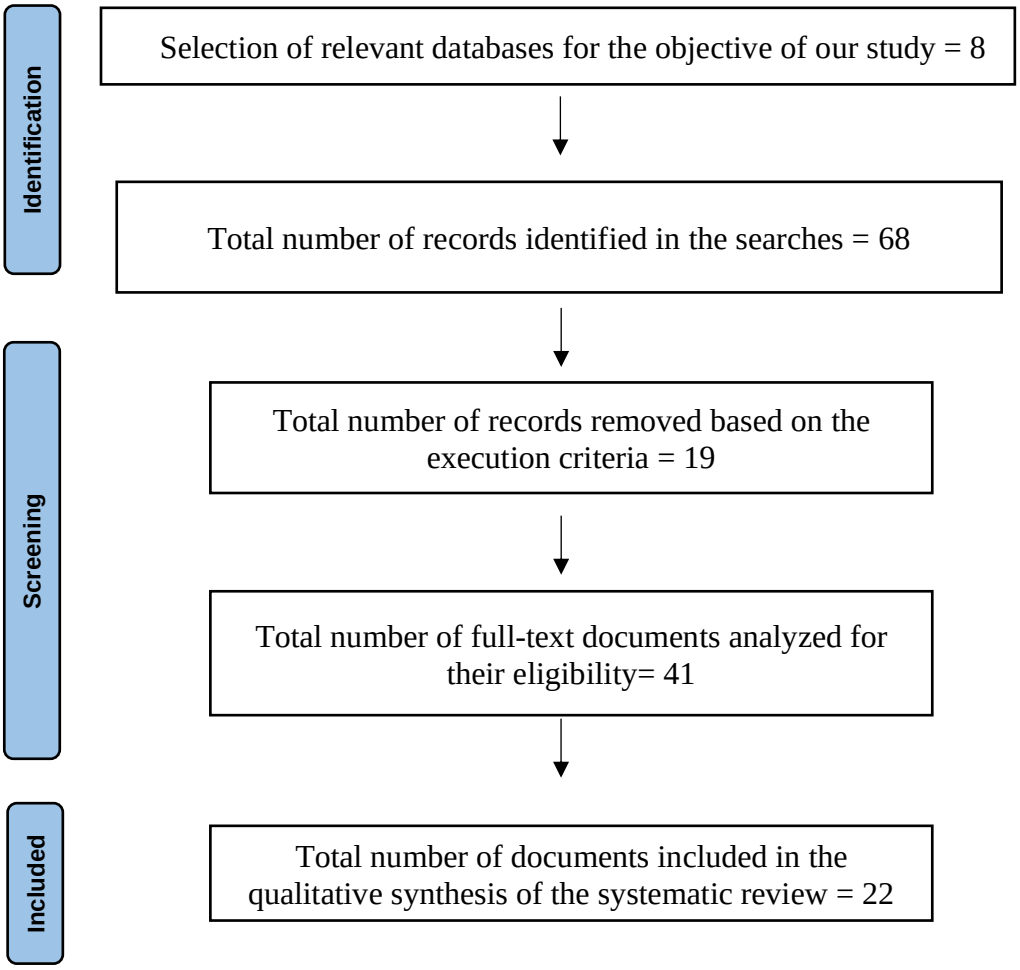
The field of trauma-informed medical education is evolving, and the proposed framework may require adjustments as new research emerges. Ongoing updates and adaptations to accommodate advancements in the field are essential.

Resource Constraints

Implementing the proposed framework may need help in resource availability, including financial and personnel resources. Institutions may need to assess feasibility and allocate resources effectively to ensure successful integration.

In the not-too-distant future, it will not be unusual for prospective medical students to look into enrolling in medical schools that provide adequate academic support to students who have a history of traumatic psychological experiences. While trauma-informed care is being practiced in many K-12 organizations, trauma-informed pedagogy needs attention during the formative periods of medical education to avoid dropouts, failures, and unprofessionalism. Hopefully, this research on trauma-informed medical education will lead to the development of a feasible curricular framework for medical schools to follow. An early trauma-informed medical education would lead to greater equality by explicitly stating what changes are necessary for the pedagogy and infrastructure to support these students academically.

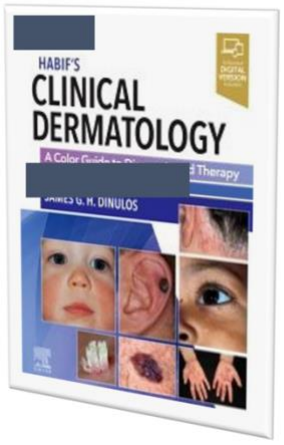
Appendix A

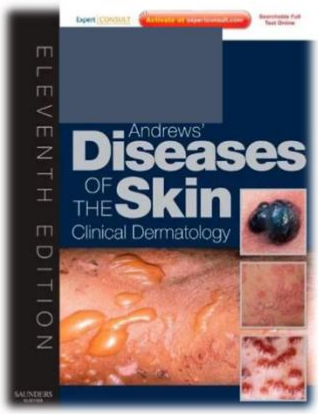

Identification
Selection of relevant databases for the objective of our study = 8
Total number of records identified in the searches = 68
Screening
Total number of records removed based on the execution criteria = 19
Total number of full-text documents analyzed for their eligibility= 41
Included
Total number of documents included in the qualitative synthesis of the systematic review = 22

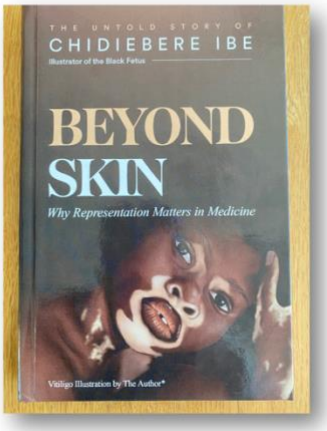
Appendix B

What is the similarity in these two book covers?

How is this one different?







References

Bandyopadhyay, S., C. T. Boylan, Y. G. Baho, et. al., (2022). Ethnicity-related stereotypes and their impacts on medical students: A critical narrative review of health professions education literature, Medical Teacher, 44:9, 986-996, DOI:10.1080/0142159X.2022.2051464

Brown, T. et al. (2021). Trauma-Informed Medical Education (TIME), Advancing Curricular Content and Educational Context. Academic Medicine: Volume 96, Issue 5, p 661-667, DOI:10.1097/ACM.0000000000003587

Burgess, D. A., and Phifer, L. W. (2013). "Students exposed to domestic violence," in Supporting and Educating Traumatized Students. Eds E. Rossen and R. Hull (Oxford: Oxford University Press), 129–139. doi:10.1093/med: psych/9780199766529.003.0009

Burke H. (2014). How Childhood Trauma Affects Health Across a Lifetime. In TEDMED2014 (Producer). New York, NY: TedTalk.

Chokshi, B. et al. (2021). Using Trauma-Informed Care in Practice: Evaluation of Internal Medicine Resident Training and Factors Affecting Clinical Use. The Permanente Journal. 10.7812/TPP/21.032, 25, 4, (1-7).

Cohen, D. K. and Mehta, J. D. (2017). 'Why Reform Sometimes Succeeds: Understanding the Conditions That Produce Reforms That Last', American Educational Research Journal. Vol 54(4), pp. 644–690. doi:10.3102/0002831217700078.

Cohen, Z. (2023). *How self-regulation can reduce student anxiety, ASCD*. Available at: https://www.ascd.org/blogs/how-self-regulation-can-reduce-student-anxiety (Accessed: 20 December 2023).

Copeland, W. E., Keeler, G., Angold, A., & Costello, E. J. (2007). Traumatic events and posttraumatic stress in childhood. Archives of General Psychiatry, 64(5), 577–584. https://doi.org/10.1001/archpsyc.64.5.577

Garay, B., Lasarte, G., Corres-Medrano, I., *et al.* (2022). Why Should Educators Receive Training in Childhood Trauma. *Trends in Psychol.* URL: https://doi.org/10.1007/s43076-022-00223-1

Ghazala, R. (2022). Trauma-informed Medical Education, Canadian Medical Association. URL: https://www.cma.ca/physician-wellness-hub/content/trauma-informed-medical-education. (Accessed July 8, 2022)

Grotan, K., et. Al., (2019). Mental Health, Academic Self-Efficacy and Study Progress Among College Students - The SHoT Study, Norway. Frontiers in psychology, 10, 45. https://doi.org/10.3389/fpsyg.2019.00045

Kaundinya, T., & Kundu, R. V. (2021). Diversity of Skin Images in Medical Texts: Recommendations for Student Advocacy in Medical Education. *Journal of medical education and curricular development*, *8*, 23821205211025855. https://doi.org/10.1177/23821205211025855

McClinton, A., Laurencin, C. T. (2020). Just in TIME: Trauma-Informed Medical Education. Journal of racial and ethnic health disparities. Vol 7(6), 1046–1052. https://doi.org/10.1007/s40615-020-00881-w

Peterson, S. (2023). Trauma-informed schools for children in K-12: A system framework, The National Child Traumatic Stress Network. Available at: https://www.nctsn.org/resources/trauma-informed-schools-children-k-12-system-framework (Accessed: 20 December 2023).

Radford, L., et al. (2013). The prevalence and impact of child maltreatment and other types of victimization in the UK: findings from a population survey of caregivers, children and young people and young adults. Child Abuse Negl. 37, 801–813. doi:10.1016/j.chiabu.2013.02.004

Somers, J., & Wheeler, L. (2022). A Blueprint for Collaborative Action to Build a Trauma-Informed School: A Case Study. Professional School Counseling, 26(1c). https://doi.org/10.1177/2156759X221134670

Sweetman N. (2022). Front. Educ. Sec. Special Educational Needs. URL: https://doi.org/10.3389/feduc.2022.914448

Thomas, M. S., et al. 2019. Trauma-Informed Practices in Schools Across Two Decades: An Interdisciplinary Review of Research, Review of Research in Education, 43(1), pp. 422–452. DOI: 10.3102/0091732X18821123.

Todd, R. (2021) *Recognizing the signs of trauma*, *Edutopia*. Available at: https://www.edutopia.org/article/recognizing-signs-trauma/ (Accessed: 20 December 2023).